

Wall Mounted Split Systems

Models: MWM 007F/FR
MWM 010F/FR
MWM 015F/FR
MWM 020F/FR
MWM 025F/FR
MWM 031F/030FR

MWMV 010FR



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Note : Installation and maintenance are to be performed only by qualified personnel who are familiar with local codes and regulations, and experienced with this type of equipment.

Caution: Sharp edges and coil surfaces are a potential injury hazard. Avoid contact with them.

Warning : Moving machinery and electrical power hazard. May cause severe personal injury or death. Disconnect and lock off power before servicing equipment.

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Special Features

- **Easy Installation**

- The wall mounted fan coil unit is easily installed because of its compact size, slimness and light weight.
- Slim and short outdoor unit can be easily installed even in a narrow balcony and passageway and yet have a stable profile.

- **Space Saving**

- No space is required on either floor or ceiling. This newly developed super slim design for wall mounting maximises floor space usage and enhance ceiling appearance where ceilings are low.

- **Quiet Operation**

- Cooling comfort is improved by whisper-quiet operation which is achieved by a tangential fan.

- **Excellent Air Distribution**

- Air discharge direction can be adjusted in four directions, manually or automatically by using LCD remote control, coupled with good air flow, the unit provides excellent air distribution.

- **Facilitated Maintenance Ensured**

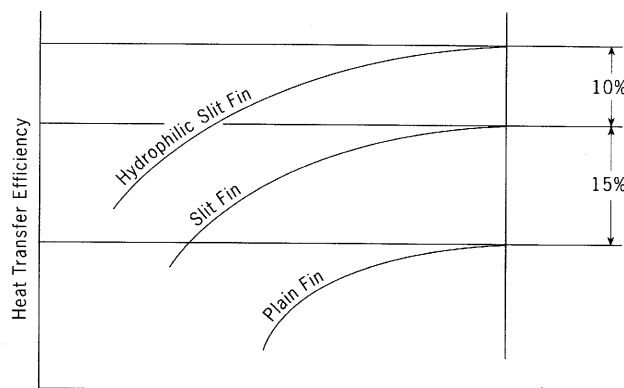
- The new design cassette filter is slide-out type which can be easily removed at the air inlet grille for cleaning.
- Maintenance is easy for electrical components, piping and wiring as these are all easily accessible by merely removing front plastic panel.

- **Wireless Remote Control**

- The compact LCD transmitter is able to operate the air conditioner unit within the distance of 9 meters.
- Fan motor speed can be set at low/medium/high or automatic.
- Sleep mode automatically increase set temperature since room temperature is lower at night thus achieving comfort surrounding.
- Air flow direction can be controlled automatically.
- Room temperature is controlled by electronic thermostat.
- The unit can be preset to on and off automatically for maximum of 15 hours by using timer on/off.

- **Slit Fin**

- The unique Hydrophilic slit fin has greatly improved the air flow and the contact surfaces with the air thus to boost the cooling capacity.



- **Rotary Compressor**

- The ever popular rotary compressor is more energy efficient and has a higher output to weight ratio.

Inverter Special Features

- **Energy Saving**
 - Able to operate in wide range of frequency.
 - Regulate capacity according to load.
- **Precise Temperature Control**
 - Modulate the compressor speed according to load.
 - Hence, provide more precise or stable temperature.
 - Less On/Off cycle.
- **Dry Mode**
 - Super low speed of indoor fan and low running frequency of compressor can achieve more effective moisture removal.
- **Pre-Heat Function**
 - To keep the compressor warm when the outdoor temperature is cold.
 - If outdoor temperature $< 3^{\circ}\text{C}$, activate this function.
 - This function de-activate when outdoor temperature $> 5^{\circ}\text{C}$.
- **Turbo Mode**
 - Allows inverter compressor operates at high power and maximum speed.
 - Expedite the process of achieving required temperature fast.
- **Self Diagnosis**
 - When fault is detected during operation, it can be indicated by LED light (indoor & outdoor) and 7-segment display (inverter display panel-outdoor).
 - Simplify and ease for troubleshooting.

Notation :

Compressor running frequency

Rated : Cooling = 75 Hz
 Heating = 95 Hz

Range : Cooling = 30 – 95 Hz
 Heating = 30 – 118 Hz

Specifications

R22 MODELS (COOLING ONLY)

MODEL	INDOOR UNIT		MWM007F	MWM010F	MWM015F	MWM020F	MWM025F	
	OUTDOOR UNIT		MLC007B	MLC010B	MLC015B	MLC020B	MLC025B	
NOMINAL COOLING CAPACITY		kcal/h	1940	2444	3200	4788	6048	
		W	2257	2843	3721	5569	7034	
		Btu/h	7700	9700	12700	19000	24000	
INPUT POWER (W) - 1Æ [3Æ]	50 Hz	803	887	1365	2215 [2136]	2772 [2715]		
	60 Hz	-	820	1210	1910	2420 <2719 Recip.>		
RUNNING CURRENT (A) - 1Æ [3Æ]	50 Hz	3.4	3.9	6.2	10.7 [4.0]	13.0 [5.1]		
	60 Hz	-	3.8	5.4	8.4	10.7 <12.6 Recip.>		
INDOOR UNIT	POWER SOURCE		V/Ph/Hz		220-240/1/50, 208-230/1/60			
	REFRIGERANT / CONTROL		R22 / OUTDOOR CAPILLARY TUBE					
	FAN	FAN TYPE		ANTI FUNGUS CROSS FLOW FAN				
		AIR FLOW	cfm / L/s	300 / 142	300 / 142	300 / 142	480 / 227	580 / 274
		FAN MOTOR	50 Hz	4 POLES x 10W	4 POLES X 10W	4 POLES X 12W	4 POLES X 20W	4 POLES X 25W
			60 Hz	-	4 POLES X 10W	4 POLES X 12W	4 POLES X 20W	4 POLES X 25W
		RATED INPUT POWER (W)	50 Hz	25	25	26	53	57
			60 Hz	-	24	27	71	82
		RATED RUNNING CURRENT (A)	50 Hz	0.11	0.11	0.11	0.23	0.24
		60 Hz	-	0.11	0.12	0.31	0.36	
	COIL	FAN MOTOR PROTECTION		THERMAL OVERLOAD RELAY				
		TUBE MATERIAL		SEAMLESS COPPER TUBE				
		TUBE PATTERN		INNER GROOVED				
		DIAMETER	mm/in	7.0 / 0.276				
		THICKNESS	mm/in	0.32 / 0.013				
		FIN MATERIAL		ALUMINIUM (HYDROPHILIC SLIT FIN TYPE)				
		THICKNESS	mm/in	0.11 / 0.0043				
		ROW		2				
		FIN PER INCH		18				
		FACE AREA	m²/ft²	0.198 / 2.131		0.254 / 2.733		
	DIMENSION	HEIGHT	mm/in	290 / 11.4		306 / 12.0		
		WIDTH	mm/in	815 / 32.1		1062 / 41.8		
		DEPTH	mm/in	179 / 7.0		202 / 8.0		
	WEIGHT	kg	9.5		16			
	SOUND PRESSURE LEVEL - H / M / L		dBA	38 / 32 / 29	38 / 34 / 30	38 / 35 / 31	45 / 42 / 39	47 / 44 / 42
	CONTROL	ROOM TEMPERATURE		THERMOSTAT ELECTRONIC CONTROL				
AIR DISCHARGE OPERATION		LOUVER (UP & DOWN) & GRILLE (LEFT & RIGHT)						
		LCD REMOTE CONTROL						
CONDENSATE DRAIN SIZE		mm/in	16 / 0.63		20 / 0.79			
AIR FILTER			SARANET+IONIZER+DEODORIZER					
PACKING	HEIGHT	mm/in	371 / 14.6		382 / 15.0			
DIMENSION	WIDTH	mm/in	875 / 34.4		1130 / 44.5			
	DEPTH	mm/in	269 / 10.6		268 / 10.6			
OUTDOOR UNIT	POWER SOURCE		V/Ph/Hz		220-240/1/50, 208-230/1/60 (380-415/3/50)			
	COMPRESSOR	COMPRESSOR TYPE		ROTARY HERMETIC < RECIPROCATING >				
		CAPACITOR (µF) - 1Æ [3Æ]	50 Hz	20	30	30	45 [NIL]	45 [NIL]
			60 Hz	-	30	30	45	60 <35>
		RATED RUNNING CURRENT (A) - 1Æ [3Æ]	50 Hz	3.1	3.6	5.8	9.9 [3.7]	12.2 [4.8]
			60 Hz	-	3.4	5.0	7.4	9.6 <11.5>
		RATED INPUT POWER (W) - 1Ø [3Ø]	50 Hz	728	812	1277	2029 [1950]	2582 [2525]
			60 Hz	-	727	1111	1672	2171 <2470>
		LOCKED ROTOR AMP. - 1Æ [3Æ]	50 Hz	15	20	25	56 [21.4]	57 [24.9]
			60 Hz	-	26	33	49	67 <70>
		PROTECTION DEVICE - 1Æ [3Æ]		EXTERNAL OVERLOAD PROTECTOR		INTERNAL OVERLOAD PROTECTOR [INTERNAL THERMOSTAT + EXTERNAL PHASE PROTECTOR]		
	FAN	FAN TYPE / DRIVE		PROPELLER / DIRECT				
		BLADE MATERIAL		GLASS REINFORCED ACRYL STYRENE RESIN				
		DIAMETER	mm/in	355.0 / 14		406 / 16		
		RATED RUNNING CURRENT (A)	50 Hz	0.21	0.21	0.28	0.56	0.56
			60 Hz	-	0.32	0.32	0.73	0.73
		MOTOR OUTPUT (W)	50 Hz	20	20	25	55	55
			60 Hz	-	20	25	80	80
	RATED INPUT POWER (W)	50 Hz	50	50	62	133	133	
		60 Hz	-	69	72	167	167	
	COIL	TUBE MATERIAL		SEAMLESS COPPER TUBE				
		TUBE PATTERN		PLAIN	INNER GROOVED		PLAIN	INNER GROOVED
		DIAMETER	mm/in	9.52 / 3/8				
		THICKNESS	mm/in	0.35 / 0.014				
		FIN MATERIAL		ALUMINIUM (CORRUGATED FIN TYPE)				
		THICKNESS	mm/in	0.127 / 0.005				
		ROW		1	1	1	2	2
		FIN PER INCH		16	18	19	14	14
		FACE AREA	m²/ft²	0.25 / 2.66	0.32 / 3.50	0.32 / 3.50	0.51 / 5.53	0.51 / 5.53
		DIMENSION	HEIGHT	mm/in	494 / 19.4		646 / 25.4	
WIDTH	mm/in		740 / 29.1		840 / 33.1			
DEPTH	mm/in		270 / 10.6		330 / 13.0			
WEIGHT	kg	27.5	31	34	57	58		
CASING	MATERIAL		GALVANISED MILD STEEL					
	THICKNESS		0.8 / 0.031					
	FINISHING		POLYESTER POWDER					
SOUND PRESSURE LEVEL		dBA	47	48	49	52	53	
PIPE	TYPE		FLARE VALVE					
	SIZE	LIQUID	mm/in	6.35 / 1/4		6.35 / 1/4		
		GAS	mm/in	9.52 / 3/8		12.70 / 1/2		
	PACKING	HEIGHT	mm/in	558 / 22.0		710 / 28.0		
		WIDTH	mm/in	851 / 33.5		957 / 37.7		
		DEPTH	mm/in	401 / 15.8		461 / 18.1		
	REFRIGERANT CHARGE	kg	0.58	0.74	0.85	1.68	1.53	

- 1) ALL SPECIFICATIONS ARE SUBJECTED TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE.
- 2) ALL UNITS ARE BEING TESTED AND COMPLY TO ARI 210/240-94.
- 3) NOMINAL COOLING CAPACITY IS BASED ON THE CONDITIONS BELOW :
- 26.7°C DB / 19.4°C WB INDOOR AND 35°C DB OUTDOOR.

R22 MODELS (COOLING ONLY)

MODEL		INDOOR UNIT		MWM031F	
		OUTDOOR UNIT		MLC031B	MLC031C
NOMINAL COOLING CAPACITY		kcal/h		6804	7560
		W		7913	8792
		Btu/h		27000	30000
INPUT POWER		W (50/60Hz)		3010 / -	2910 / 3804
RUNNING CURRENT		A (50/60Hz)		14.4 / -	13.5 / 17.3
POWER SOURCE		V/Ph/Hz		220 - 240 / 1 / 50/60	
INDOOR UNIT	REFRIGERANT / CONTROL			R22 / OUTDOOR CAPILLARY TUBE	
	FAN	FAN TYPE		ANTI FUNGUS CROSS FLOW FAN	
		AIR FLOW	cfm / L/s	740 / 349	
		FAN MOTOR		4 POLES X 45W	
		RATED INPUT POWER	W (50/60Hz)	71 / 82	
		RATED RUNNING CURRENT	A (50/60Hz)	0.30 / 0.38	
		FAN MOTOR PROTECTION		THERMAL OVERLOAD RELAY	
	TUBE	MATERIAL		SEAMLESS COPPER TUBE	
		TUBE PATTERN		INNER GROOVED	
		DIAMETER	mm/in	9.52 / 0.375	
		THICKNESS	mm/in	0.35 / 0.013	
		MATERIAL		ALUMINIUM (HYDROPHILIC SLIT FIN TYPE)	
	FIN	THICKNESS	mm/in	0.11 / 0.0043	
		ROW		2	
		FIN PER INCH		16	
		FACE AREA	m ² /ft ²	0.291 / 3.130	
		HEIGHT	mm/in	360 / 14.2	
	DIMENSION	WIDTH	mm/in	1200 / 47.2	
		DEPTH	mm/in	200 / 7.9	
	WEIGHT		kg	17	
	SOUND PRESSURE LEVEL - H/M/L		dBa	49 / 47 / 45	
	CONTROL	ROOM TEMPERATURE		THERMOSTAT ELECTRONIC CONTROL	
		AIR DISCHARGE		AUTO LOUVER (UP & DOWN) & GRILLE (LEFT & RIGHT)	
		OPERATION		LCD REMOTE CONTROL	
	CONDENSATE DRAIN SIZE		mm/in	20 / 0.79	
	AIR FILTER			SARANET+IONIZER+DEODORIZER	
	PACKING DIMENSION	HEIGHT	mm/in	420 / 16.5	
		WIDTH	mm/in	1267 / 49.9	
		DEPTH	mm/in	260 / 10.2	
OUTDOOR UNIT	COMPRESSOR	COMPRESSOR TYPE		ROTARY HERMETIC	RECIPROCATING HERMETIC
		POWER SOURCE		220 - 240 / 1 / 50	220 - 240 / 1 / 50
		CAPACITOR (µF)		-	208 - 230 / 1 / 60
		50 Hz		50	45
		60 Hz		-	45
		LOCKED ROTOR AMP (A)		50 Hz	66
		60 Hz		-	88
		RATED RUNNING CURRENT (A)		50 Hz	13.5
		60 Hz		-	15.7
		INPUT POWER (W)		50 Hz	2799
		60 Hz		-	2606
		PROTECTION DEVICE		INTERNAL OVERLOAD PROTECTOR	INTERNAL OVERLOAD PROTECTOR + HI-LO PRESS. SWITCH
	FAN	POWER SOURCE		220 - 240 / 1 / 50	220 - 240 / 1 / 50 , 208 - 230 / 1 / 60
		FAN TYPE / DRIVE		PROPELLER / DIRECT	
		BLADE MATERIAL		GLASS REINFORCED ACRYL STYRENE RESIN	
		DIAMETER		406 / 16	610 / 24
		RATED RUNNING CURRENT		A (50/60Hz)	0.60 / -
		MOTOR OUTPUT		W (50/60Hz)	80 / -
		RATED INPUT POWER		W (50/60Hz)	140 / -
					233 / 261
	COIL	MATERIAL		SEAMLESS COPPER TUBE	
		TUBE PATTERN		INNER GROOVED	PLAIN
		DIAMETER		mm/in	9.52 / 3/8
		THICKNESS		mm/in	0.36 / 0.014 AVE.
		MATERIAL		ALUMINIUM (SLIT FIN TYPE)	
		THICKNESS		mm/in	0.127 / 0.005
		ROW		2	1
		FIN PER INCH		16	16
		FACE AREA		m ² /ft ²	0.51 / 5.53
		HEIGHT		mm/in	646 / 25.40
	DIMENSION	WIDTH		mm/in	840 / 33.10
		DEPTH		mm/in	330 / 13.00
	WEIGHT		kg	58	95
	CASING	MATERIAL		GALVANISED MILD STEEL	
		THICKNESS		mm/in	0.8 / 0.031
	FINISHING			POLYESTER POWDER	
	SOUND PRESSURE LEVEL		dBa	56	58
	PIPE	TYPE		FLARE VALVE	
		SIZE		LIQUID	mm/in
	PACKING DIMENSION	GAS		9.52 / 3/8	
				15.88 / 5/8	
		HEIGHT		mm/in	710 / 27.95
		WIDTH		mm/in	957 / 37.68
		DEPTH		mm/in	461 / 18.15
					560 / 22.05
	REFRIGERANT CHARGE		kg	1.96	1.75

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R22 MODELS (C SERIES) (COOLING ONLY)

MODEL	INDOOR UNIT		MWM007F	MWM010F	MWM015F
	OUTDOOR UNIT		MLC007C	MLC010C	MLC015C
NOMINAL COOLING CAPACITY		kcal/h	1840	2444	3024
		W	2140	2840	3520
		Btu/h	7300	9700	12000
INPUT POWER		W (50 Hz)	640	860	1132
RUNNING CURRENT		A (50Hz)	2.7	3.6	4.9
POWER SOURCE		V/Ph/Hz	220-240/1/50		
INDOOR UNIT	REFRIGERANT / CONTROL		R22 / CAPILLARY TUBE IN OUTDOOR		
	FAN	FAN TYPE	ANTI FUNGUS CROSS FLOW FAN		
		AIR FLOW	300 / 142		
		FAN MOTOR	50 Hz		4 POLES X 12W
		RATED INPUT POWER	W (50 Hz)		25
		RATED RUNNING CURRENT	A (50 Hz)		0.11
		FAN MOTOR PROTECTION	THERMAL OVERLOAD RELAY		
	COIL	MATERIAL	SEAMLESS COPPER TUBE		
		TUBE PATTERN	INNER GROOVED		
		DIAMETER	mm/in		7.0 / 0.276
		THICKNESS	mm/in		0.32 / 0.013
		FIN	ALUMINIUM (HYDROPHILIC SLIT FIN TYPE)		
		THICKNESS	mm/in		0.11 / 0.0043
		ROW			2
		FIN PER INCH			18
		FACE AREA	m ² /ft ²		0.198 / 2.131
	DIMENSION	HEIGHT	mm/in		290 / 11.4
		WIDTH	mm/in		815 / 32.1
		DEPTH	mm/in		179 / 7.0
WEIGHT		kg	9.5		
SOUND PRESSURE LEVEL- H / M / L		dBA	38 / 32 / 29	38 / 34 / 30	38 / 35 / 31
CONTROL	ROOM TEMPERATURE		THERMOSTAT ELECTRONIC CONTROL		
	AIR DISCHARGE		LOUVER (UP & DOWN) & GRILLE (LEFT & RIGHT)		
	OPERATION		LCD REMOTE CONTROL		
CONDENSATE DRAIN SIZE		mm/in	16 / 0.63		
AIR FILTER			SARANET+IONIZER+DEODORIZER		
PACKING	DIMENSION	HEIGHT	mm/in		371 / 14.6
		WIDTH	mm/in		875 / 34.4
		DEPTH	mm/in		269 / 10.6
POWER SOURCE		V/Ph/Hz	220-240/1/50		
OUTDOOR UNIT	COMPRESSOR	COMPRESSOR TYPE	ROTARY HERMETIC		
		CAPACITOR	µF		25
		RATED RUNNING CURRENT	A		2.4
		RATED INPUT POWER	W		574
		LOCKED ROTOR AMP.	A		19
	FAN	PROTECTION DEVICE	INT. O.L.P	EXT. O.L.P	INT. O.L.P
		FAN TYPE / DRIVE	PROPELLER / DIRECT		
		BLADE MATERIAL	GLASS REINFORCED ACRYL STYRENE RESIN		
		DIAMETER	mm/in		356/14
		RATED RUNNING CURRENT	A (50 Hz)		0.18
	COIL	MOTOR OUTPUT	W (50 Hz)		20
		RATED INPUT POWER	W(50 Hz)		41
		MATERIAL	SEAMLESS COPPER TUBE		
		TUBE PATTERN	INNER GROOVED		
		DIAMETER	mm/in		9.52 / 3/8
		THICKNESS	mm/in		0.35 / 0.014
	FIN	MATERIAL	ALUMINIUM (SLIT FIN)		
		THICKNESS	mm/in		0.11/0.004
		ROW			1
		FIN PER INCH			18
		FACE AREA	m ² /ft ²		0.31/3.40
DIMENSION		HEIGHT	mm/in		495/19.5
		WIDTH	mm/in		600/23.6
		DEPTH	mm/in		245/9.7
WEIGHT		kg	28	32	32
CASING		MATERIAL	EG/GI		
		THICKNESS	mm		0.5-2.0
		FINISHING	EPOXY POLYESTER POWDER		
SOUND PRESSURE LEVEL		dBA	44	46	49
PIPE	TYPE	FLARE VALVE			
		SIZE	mm/in		6.35 / 1/4
		LIQUID	mm/in		9.52 / 3/8
PACKING	DIMENSION	HEIGHT	mm/in		575/22.6
		WIDTH	mm/in		715/28.1
		DEPTH	mm/in		330/13.0
REFRIGERANT CHARGE		kg	0.58	0.80	0.86

Abbreviation

INT. O.L.P - INTERNAL OVERLOAD PROTECTOR
EXT. O.L.P - EXTERNAL OVERLOAD PROTECTOR

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R22 MODELS (HEATPUMP)

MODEL	INDOOR UNIT		MWM007FR		MWM010FR		MWM015FR		MWM020FR		MWM025FR				
	OUTDOOR UNIT		MLC007BR		MLC010BR		MLC015BR		MLC020BR		MLC025BR				
NOMINAL COOLING CAPACITY		kcal/h	1940		2394		3100		4788		6050				
		W	2257		2784		3604		5569		7034				
		Btu/h	7700		9500		12300		19000		24000				
NOMINAL HEATING CAPACITY		kcal/h	1966		2570		3276		5040		6300				
		W	2285		2989		3809		5862		7327				
		Btu/h	7800		10200		13000		20000		25000				
INPUT POWER (W)	COOLING	50 Hz	742		915		1324		2148 [2136]		2780 [2715]				
1/ε [3.ε]		60 Hz	-		820		1210		1810		2420				
		50 Hz	721		768		1257		2154 [2146]		2800 [2831]				
	HEATING	60 Hz	-		740		1040		1780		2290				
		50 Hz	3.1		4.1		6.0		10.5 [4.0]		13.2 [5.1]				
1/ε [3.ε]		60 Hz	-		3.8		5.4		8.4		10.7				
	HEATING	50 Hz	3.1		3.4		5.7		10.6 [4.0]		13.3 [5.2]				
		60 Hz	-		3.4		4.6		7.9		10.1				
POWER SOURCE			V/Ph/Hz		220 - 240 / 1 / 50, 208 - 230 / 1 / 60										
REFRIGERANT / CONTROL			R22 / OUTDOOR CAPILLARY TUBE												
INDOOR UNIT	FAN	FAN TYPE		ANTI FUNGUS CROSS FLOW FAN											
		AIR FLOW		cfm / L/s		300 / 142		300 / 142		300 / 142		480 / 227		580 / 274	
		FAN MOTOR		50 Hz		4 POLES x 10W		4 POLES x 10W		4 POLES x 12W		4 POLES x 20W		4 POLES x 25W	
				60 Hz		-		4 POLES x 10W		4 POLES x 12W		4 POLES x 20W		4 POLES x 25W	
		RATED INPUT POWER (W)		50 Hz		25		25		25		53		57	
				60 Hz		-		24		27		71		82	
	RATED RUNNING CURRENT (A)		50 Hz		0.11		0.11		0.11		0.23		0.24		
			60 Hz		-		0.11		0.12		0.31		0.36		
	FAN MOTOR PROTECTION		THERMAL OVERLOAD RELAY												
	COIL	TUBE	MATERIAL		SEAMLESS COPPER TUBE										
TUBE PATTERN			INNER GROOVED												
DIAMETER			mm/in		7.0 / 0.276										
THICKNESS			mm/in		0.32 / 0.013										
FIN		MATERIAL		ALUMINIUM (HYDROPHILIC SLIT FIN TYPE)											
		THICKNESS		mm/in		0.11 / 0.0043									
		ROW				2									
		FIN PER INCH				18									
		FACE AREA		m ² /ft ²		0.198 / 2.131								0.254 / 2.733	
DIMENSION	HEIGHT	mm/in	290 / 11.4								306 / 12.0				
	WIDTH	mm/in	815 / 32.1								1062 / 41.8				
	DEPTH	mm/in	179 / 7.0								202 / 8.0				
WEIGHT		kg	9.5								16				
SOUND PRESSURE LEVEL - H / M / L		dBA	38 / 32 / 29		38 / 34 / 30		38 / 35 / 31		45 / 42 / 39		47 / 44 / 42				
CONTROL		ROOM TEMPERATURE	THERMOSTAT ELECTRONIC CONTROL												
		AIR DISCHARGE	LOUVER (UP & DOWN) & GRILLE (LEFT & RIGHT)												
		OPERATION	LCD REMOTE CONTROL												
CONDENSATE DRAIN SIZE		mm/in	16 / 0.63								20 / 0.79				
AIR FILTER		SARANET+IONIZER+DEODORIZER													
PACKING	HEIGHT	mm/in	371 / 14.6								382 / 15.0				
DIMENSION	WIDTH	mm/in	875 / 34.4								1130 / 44.5				
	DEPTH	mm/in	269 / 10.6								268 / 10.6				
POWER SOURCE			240/1/50, 230/1/60 [380/3/50]												
COMPRESSOR	COMPRESSOR TYPE		V/Ph/Hz		ROTARY HERMETIC										
	CAPACITOR (μF) - 1/ε [3.ε]	50 Hz	25		30		30		45 [NIL]		45 [NIL]				
		60 Hz	-		30		30		45		60				
		CURRENT INPUT (A)	50 Hz	2.8		3.7		5.6		9.7 [3.7]		12.4 [4.8]			
			60 Hz	-		3.4		5.0		7.4		9.6			
			1/ε [3.ε]	50 Hz	3.0		3.0		5.3		9.8 [3.7]		12.5 [4.9]		
				60 Hz	-		3.0		4.2		6.9		9.0		
	RATED INPUT POWER (W)	50 Hz	666		840		1237		1962 [1950]		2590 [2525]				
		60 Hz	727		1111		1672		2171						
		1/ε [3.ε]	50 Hz	645		693		1170		1968 [1960]		2610 [2641]			
60 Hz			647		941		1542		2041						
LOCKED ROTOR AMP. (A)		50 Hz	15		20		25		56 [21.4]		57 [24.9]				
- 1/ε [3.ε]		60 Hz	-		26		33		49		67				
PROTECTION DEVICE - 1/ε [3.ε]		EXT. O.L.P		EXT. O.L.P		EXT. O.L.P		INT. O.L.P [INT. TH. + EXT. P.P]							
OUTDOOR UNIT	FAN TYPE / DRIVE		PROPELLER / DIRECT												
	BLADE MATERIAL		GLASS REINFORCED ACRYL STYRENE RESIN												
	DIAMETER	mm/in	355 / 14.0								406 / 16				
	RATED RUNNING CURRENT (A)	50 Hz	0.21		0.21		0.28				0.56				
		60 Hz	-		0.32		0.32				0.73				
	MOTOR OUTPUT (W)	50 Hz	30		20		25				55				
		60 Hz	-		20		25				80				
	RATED INPUT POWER (W)	50 Hz	51		50		62				133				
		60 Hz	-		69		72				167				
	COIL	TUBE	MATERIAL		SEAMLESS COPPER TUBE										
TUBE PATTERN			PLAIN		INNER GROOVED				PLAIN		INNER GROOVED				
DIAMETER			mm/in		9.52 / 3/8										
THICKNESS			mm/in		0.35 / 0.014										
FIN		MATERIAL		ALUMINIUM (CORRUGATED FIN TYPE)											
		THICKNESS		mm/in		0.127 / 0.0050									
		ROW				1				2					
		FIN PER INCH				19				14					
		FACE AREA		m ² /ft ²		0.32 / 3.5				0.51 / 5.53					
DIMENSION	HEIGHT	mm/in	494 / 19.4								646 / 25.4				
	WIDTH	mm/in	740 / 29.1								840 / 33.1				
	DEPTH	mm/in	270 / 10.6								330 / 13.0				
WEIGHT		kg	30		31		34		57		58				
CASING	MATERIAL	GALVANISED MILD STEEL													
	THICKNESS	mm/in	0.8 / 0.031												
FINISHING		EPOXY POLYESTER POWDER													
SOUND PRESSURE LEVEL		dBA	47		48		49		52		53				
PIPE TYPE	TYPE	FLARE VALVE													
	SIZE	LIQUID	mm/in		6.35 / 1/4		6.35 / 1/4		6.35 / 1/4		9.52 / 3/8				
		GAS	mm/in		9.52 / 3/8		12.70 / 1/2		15.88 / 5/8		15.88 / 5/8				
PACKING	HEIGHT	mm/in	558 / 22.0								710 / 28.0				
DIMENSION	WIDTH	mm/in	851 / 33.5								957 / 37.7				
	DEPTH	mm/in	401 / 15.8								461 / 18.1				
REFRIGERANT CHARGE		kg	0.68		0.83		0.85		1.60		1.63				

Abbreviation

INT. TH. - INTERNAL THERMOSTAT
 INT. O.L.P - INTERNAL OVERLOAD PROTECTOR
 EXT. O.L.P - EXTERNAL OVERLOAD PROTECTOR
 EXT. P.P - EXTERNAL PHASE PROTECTOR

- 1) ALL SPECIFICATIONS ARE SUBJECTED TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE.
- 2) ALL UNITS ARE BEING TESTED AND COMPLY TO ARI 210/240-94.
- 3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :
 - a) COOLING - 26.7°C DB / 19.4°C WB INDOOR AND 35°C DB OUTDOOR
 - b) HEATING - 21.1°C DB / 15.6°C WB INDOOR AND 8.3°C DB / 6.1°C WB OUTDOOR

R22 MODELS (HEATPUMP)

MODEL		INDOOR UNIT		OUTDOOR UNIT				
		INDOOR UNIT		OUTDOOR UNIT				
				MLC030BR	MLC030CR			
NOMINAL COOLING CAPACITY		kcal/h		6550	7560			
		W		7620	8790			
		Btu/h		26000	30000			
NOMINAL HEATING CAPACITY		kcal/h		7056	7560			
		W		8206	8790			
		Btu/h		28000	30000			
INPUT POWER (COOLING) - 1.Æ [3.Æ]		W (50/60Hz)		2992 / -	2944 [3204] / 3525			
INPUT POWER (HEATING) - 1.Æ [3.Æ]		W (50/60Hz)		2831 / -	2864 [3060] / 3223			
RUNNING CURRENT(COOLING) - 1.Æ [3.Æ]		A (50/60Hz)		14.3 / -	14.3 [5.4] / 14.0			
RUNNING CURRENT (HEATING) - 1.Æ [3.Æ]		A (50/60Hz)		13.9 / -	13.7 [5.3] / 15.3			
POWER SOURCE		V/Ph/Hz		220 - 240 / 1 / 50	220 - 240 / 1 / 50/ 60			
REFRIGERANT / CONTROL				R22 / OUTDOOR CAP TUBE	R22 / OUTDOOR CAP TUBE + TXV			
INDOOR UNIT	FAN	FAN TYPE	ANTI FUNGUS CROSS FLOW FAN					
		AIR FLOW	740 / 349					
		FAN MOTOR	4 POLES X 45W					
		RATED INPUT POWER	71 / 82					
		RATED RUNNING CURRENT	0.30 / 0.38					
	FAN MOTOR PROTECTION		THERMAL OVERLOAD RELAY					
	COIL	TUBE MATERIAL	SEAMLESS COPPER TUBE					
		TUBE PATTERN	INNER GROOVED					
		DIAMETER	9.52 / 0.375					
		THICKNESS	0.35 / 0.013					
		FIN	MATERIAL	ALUMINIUM (HYDROPHILIC SLIT FIN TYPE)				
THICKNESS	0.11 / 0.0043							
ROW	2							
FIN PER INCH	16							
FACE AREA	0.291 / 3.130							
DIMENSION	HEIGHT	mm/in						
	WIDTH	mm/in						
	DEPTH	mm/in						
WEIGHT		kg	17					
SOUND PRESSURE LEVEL - H / M / L			dBA	49 / 47 / 45				
CONTROL	ROOM TEMPERATURE	THERMOSTAT ELECTRONIC CONTROL						
	AIR DISCHARGE OPERATION	AUTO LOUVER (UP & DOWN) & GRILLE (LEFT & RIGHT)						
		LCD REMOTE CONTROL						
CONDENSATE DRAIN SIZE		mm/in	20 / 0.79					
AIR FILTER		SARANET+IONIZER+DEODORIZER						
PACKING DIMENSION	HEIGHT	mm/in	420 / 16.5					
	WIDTH	mm/in	1267 / 49.9					
	DEPTH	mm/in	260 / 10.2					
OUTDOOR UNIT	COMPRESSOR	COMPRESSOR TYPE	ROTARY HERMETIC		RECIPROCATING HERMETIC			
		POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50		220 - 240 / 1 / 50 / [380 - 415 / 3 / 50]		
			V/Ph/Hz	-		208 - 230 / 1 / 60		
		CAPACITOR - µF	50 Hz	50		45 [NIL]		
		1.Æ [3.Æ]	60 Hz	-		45		
		LOCKED ROTOR AMP. - A	50 Hz	66		85 [35]		
		1.Æ [3.Æ]	60 Hz	-		88		
		RATED RUNNING CURRENT (COOLING) - A	50 Hz	13.4		13.0 [5.0]		
		1.Æ [3.Æ]	60 Hz	-		12.4		
		RATED RUNNING CURRENT (HEATING) - A	50 Hz	13.0		12.4 [4.9]		
	1.Æ [3.Æ]	60 Hz	-		13.7			
	INPUT POWER (COOLING) - W	50 Hz	2781		2640 [2900]			
	1.Æ [3.Æ]	60 Hz	-		3182			
	INPUT POWER (HEATING) - W	50 Hz	2620		2560 [2756]			
1.Æ [3.Æ]	60 Hz	-		2880				
PROTECTION DEVICE		INT. O.L.P		INT. O.L.P + HI-LO PRESS. SWITCH				
POWER SOURCE		V/Ph/Hz	220 - 240 / 1 / 50		220 - 240 / 1 / 50 , 208 - 230 / 1 / 60			
OUTDOOR UNIT	FAN	FAN TYPE / DRIVE	PROPELLER / DIRECT					
		BLADE MATERIAL	GLASS REINFORCED ACRYL STYRENE RESIN					
		DIAMETER	mm/in	406 / 16		610 / 24		
		RATED RUNNING CURRENT	A (50/60Hz)	0.6 / -		1.03 / 1.25		
		MOTOR OUTPUT	W (50/60Hz)	80 / -		145 / 145		
	RATED INPUT POWER		W (50/60Hz)	140 / -		233 / 261		
	COIL	TUBE MATERIAL	SEAMLESS COPPER TUBE					
		TUBE PATTERN	INNER GROOVED		PLAIN			
		DIAMETER	mm/in	9.52 / 3/8				
		THICKNESS	mm/in	0.36 / 0.014 AVE.		0.35 / 0.014		
		MATERIAL	ALUMINIUM (SLIT FIN TYPE)				ALUMINIUM (CORRUGATED FIN TYPE)	
	FIN	THICKNESS	mm/in	0.127 / 0.005				
		ROW	2				2	
		FIN PER INCH	16				16	
FACE AREA		m²/ft²	0.51 / 5.53		0.87 / 9.33			
DIMENSION		HEIGHT	mm/in	646 / 25.40		850 / 33.46		
	WIDTH	mm/in	840 / 33.10		1030 / 40.55			
	DEPTH	mm/in	330 / 13.00		400 / 15.75			
WEIGHT		kg	58				95	
CASING	MATERIAL	GALVANISED MILD STEEL						
	THICKNESS	mm/in	0.8 / 0.031					
		FINISHING				POLYESTER POWDER		
SOUND PRESSURE LEVEL		dBA	56				58	
PIPE	TYPE	FLARE VALVE						
	SIZE	LIQUID	mm/in	9.52 / 3/8		15.88 / 5/8		
PACKING DIMENSION	HEIGHT	mm/in	710 / 27.95		1000 / 39.37			
	WIDTH	mm/in	957 / 37.68		1200 / 47.24			
	DEPTH	mm/in	461 / 18.15		560 / 22.05			
	REFRIGERANT CHARGE		kg	1.78				2.30

Abbreviation

INT. O.L.P - INTERNAL OVERLOAD PROTECTOR

1) ALL SPECIFICATIONS ARE SUBJECTED TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE.

2) ALL UNITS ARE BEING TESTED AND COMPLY TO ARI 210/240-94.

3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :

- COOLING - 26.7°C DB / 19.4°C WB INDOOR AND 35°C DB OUTDOOR
- HEATING - 21.1°C DB / 15.6°C WB INDOOR AND 8.3°C DB / 6.1°C WB OUTDOOR

R22 MODELS (HEATPUMP)

MODELS		INDOOR UNIT	MWMV010FR
		OUTDOOR UNIT	MLCV010BR
NOMINAL COOLING CAPACITY		kcal/h	2218 (1033 - 2470)
		W	2579 (1202 - 2872)
NOMINAL HEATING CAPACITY		kcal/h	3024 (882 - 4032)
		W	3517 (1026 - 4689)
LOW TEMPERATURE HEATING CAPACITY		kcal/h	2520
		W	3142
INPUT POWER (W)	COOLING		900 (400 - 1100)
	HEATING		1096 (360 - 1380)
RUNNING CURRENT (A)	COOLING		4.0 (MAX. 4.7)
	HEATING		4.8 (MAX. 6.0)
POWER SOURCE (V/Ph/Hz)			220 - 240 / 1 / 50
REFRIGERANT			R 22
INDOOR UNIT	FAN	FAN TYPE	ANTI FUNGUS CROSS FLOW FAN
		AIR FLOW (cfm / L/s)	300 / 142
		FAN MOTOR	4 POLES X 10W
		INPUT POWER (W)	26
		RUNNING CURRENT (A)	0.11
		FAN MOTOR PROTECTION	THERMAL OVERLOAD RELAY
	COIL	TUBE MATERIAL	INNER GROOVED SEAMLESS COPPER TUBE
		DIAMETER (mm/in)	7.0 / 0.276"
		THICKNESS (mm/in)	0.32 / 0.013"
		FIN MATERIAL	ALUMINIUM (HYDROPHILIC SLIT FIN)
		THICKNESS (mm/in)	0.11 / 0.0043"
		ROW	2
		FIN PER INCH	18
		FACE AREA (m ² /ft ²)	0.198 / 2.131
	DIMENSION	HEIGHT (mm/in)	290 / 11.4"
		WIDTH (mm/in)	815 / 32.1"
		DEPTH (mm/in)	179 / 7.0"
	WEIGHT (kg)		9.5
	NOISE LEVEL	HIGH FAN (dBA)	38.0
		MED. FAN (dBA)	32.0
		LOW FAN (dBA)	29.0
	CONTROL	ROOM TEMP.	MICROCOMPUTER CONTROLLED THERMOSTAT
		AIR DISCHARGE OPERATION	AUTOMATIC LOUVER (UP & DOWN) & GRILLE (LEFT & RIGHT)
			LCD WIRELESS MICRO COMPUTER REMOTE CONTROL
	CONDENSATE DRAIN SIZE (mm/in)		16 / 0.63"
	AIR FILTER		WASHABLE SARANET + IONIZER + DEODORIZER FILTER
	PACKING DIMENSION (mm / in)		875 x 371 x 269 / 34.4" x 14.6" x 10.6"
OUTDOOR UNIT	COMP	COMPRESSOR TYPE	ROTARY INVERTER
		MOTOR	3 PHASE INDUCTION MOTOR
		PROTECTION DEVICE	ELECTRONIC CONTROL
	FAN	FAN TYPE / DRIVE	PROPELLER / DIRECT
		BLADE MATERIAL	GLASS REINFORCED ACRYL STYRENE RESIN
		DIAMETER (mm/in)	355 / 14"
		RUNNING CURRENT (A)	0.3
		MOTOR OUTPUT (W)	30
		INPUT POWER (W)	62
	COIL	TUBE MATERIAL	INNER GROOVED SEAMLESS COPPER TUBE
		DIAMETER (mm/in)	9.52 / 3/8"
		THICKNESS (mm/in)	0.35 / 0.014"
		FIN MATERIAL	ALUMINIUM (HYDROPHILIC CORRUGATED FIN TYPE)
		THICKNESS (mm/in)	0.127 / 0.005"
		ROW	2
		FIN PER INCH	16
		FACE AREA (m ² /ft ²)	0.31 / 3.36
	DIMENSION	HEIGHT (mm/in)	494 / 19.4"
		WIDTH (mm/in)	740 / 29.1"
		DEPTH (mm/in)	270 / 10.6"
	WEIGHT (kg)		35
	CASING	MATERIAL	GALVANISED MILD STEEL
		THICKNESS (mm/in)	0.8 / 0.031"
		FINISH	EPOXY-POLYESTER POWDER
	NOISE LEVEL (dBA)		50
	PIPING	TYPE	FLARE VALVE
		PIPE SIZE	6.35 / 1/4"
		GAS (mm/in)	9.52 / 3/8"
	PACKING DIMENSION		(mm/in) 558 X 851 X 401 / 22.0" X 33.5" X 15.8"
	REFRIGERANT CHARGE		kg 0.83

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3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :

a) COOLING - 26.7°C DB / 19.4°C WB INDOOR AND 35°C DB OUTDOOR

b) HEATING - 21.1°C DB / 15.6°C WB INDOOR AND 8.3°C DB / 6.1°C WB OUTDOOR

c) LOW TEMPERATURE HEATING : 21.1 °C DB / 15.6 °C WB INDOOR AND -8.3 °C DB / -9.4 °C WB OUTDOOR

R22 MODELS (C SERIES) (HEATPUMP)

MODEL			INDOOR UNIT	OUTDOOR UNIT	MWM007FR	MWM010FR	MWM015FR	
			OUTDOOR UNIT		MLC007CR	MLC010CR	MLC015CR	
NOMINAL COOLING CAPACITY				kcal/h	1940	2394	3024	
				W	2260	2780	3520	
				Btu/h	7700	9500	12000	
NOMINAL HEATING CAPACITY				kcal/h	1890	2394	3024	
				W	2200	2780	3520	
				Btu/h	7500	9500	12000	
INPUT POWER (COOLING)			W (50 Hz)	650	860	1175		
INPUT POWER (HEATING)			W (50 Hz)	560	770	1025		
RUNNING CURRENT (COOLING)			A (50Hz)	2.8	3.7	5.2		
RUNNING CURRENT (HEATING)			A (50Hz)	2.4	3.3	4.6		
POWER SOURCE			V/Ph/Hz	220-240/1/50				
REFRIGERANT / CONTROL			R22 / CAPILLARY TUBE IN OUTDOOR					
FAN	FAN TYPE		ANTI FUNGUS CROSS FLOW FAN					
	AIR FLOW		cfm / L/s	300 / 142				
	FAN MOTOR		50 Hz	4 POLES X 10W		4 POLES X 12W		
	RATED INPUT POWER		W (50 Hz)	25		26		
	RATED RUNNING CURRENT		A (50 Hz)	0.11				
	FAN MOTOR PROTECTION		THERMAL OVERLOAD RELAY					
COIL	TUBE		SEAMLESS COPPER TUBE					
	TUBE PATTERN		INNER GROOVED					
	DIAMETER		mm/in	7.0 / 0.276				
	THICKNESS		mm/in	0.32 / 0.013				
	MATERIAL		ALUMINIUM (HYDROPHILIC SLIT FIN TYPE)					
	THICKNESS		mm/in	0.11 / 0.0043				
	ROW		2					
	FIN PER INCH		18					
	FACE AREA		m ² /ft ²	0.198 / 2.131				
	DIMENSION		HEIGHT	mm/in	290 / 11.4			
		WIDTH	mm/in	815 / 32.1				
		DEPTH	mm/in	179 / 7.0				
WEIGHT			kg	9.5				
SOUND PRESSURE LEVEL- H / M / L			dBA	38 / 32 / 29	38 / 34 / 30	38 / 35 / 31		
CONTROL			ROOM TEMPERATURE		THERMOSTAT ELECTRONIC CONTROL			
			AIR DISCHARGE		LOUVER (UP & DOWN) & GRILLE (LEFT & RIGHT)			
			OPERATION		LCD REMOTE CONTROL			
CONDENSATE DRAIN SIZE			mm/in	16 / 0.63				
AIR FILTER			SARANET+IONIZER+DEODORIZER					
PACKING DIMENSION			HEIGHT	mm/in	371 / 14.6			
			WIDTH	mm/in	875 / 34.4			
			DEPTH	mm/in	269 / 10.6			
POWER SOURCE			V/Ph/Hz	220-240/1/50				
COMPRESSOR	COMPRESSOR TYPE		ROTARY HERMETIC					
	CAPACITOR		µF	25	30	35		
	RATED RUNNING CURRENT (COOLING)		A	2.5	3.3	4.8		
	RATED RUNNING CURRENT (HEATING)		A	2.1	2.9	4.2		
	RATED INPUT POWER (COOLING)		W	584	781	1087		
	RATED INPUT POWER (HEATING)		W	494	691	937		
	LOCKED ROTOR AMP.		A	19	20	30		
	PROTECTION DEVICE		INT. O.L.P		EXT. O.L.P		INT. O.L.P	
	FAN TYPE / DRIVE		PROPELLER / DIRECT					
	BLADE MATERIAL		GLASS REINFORCED ACRYL STYRENE RESIN					
FAN	DIAMETER		mm/in	356/14	404/16			
	RATED RUNNING CURRENT		A (50 Hz)	0.18	0.23	0.26		
	MOTOR OUTPUT		W (50 Hz)	20	35	35		
	RATED INPUT POWER		W(50 Hz)	41	54	62		
	TUBE		SEAMLESS COPPER TUBE					
	TUBE PATTERN		INNER GROOVED					
COIL	DIAMETER		mm/in	9.52 / 3/8				
	THICKNESS		mm/in	0.35 / 0.014				
	MATERIAL		ALUMINIUM (CORRUGATED FIN)		ALUMINIUM (SLIT FIN)			
	THICKNESS		mm/in	0.11/0.004				
	ROW		1					
	FIN PER INCH		18					
	FACE AREA		m ² /ft ²	0.31/3.40	0.36/3.94			
	DIMENSION		HEIGHT	mm/in	495/19.5			
			WIDTH	mm/in	600/23.6			
			DEPTH	mm/in	245/9.7			
WEIGHT			kg	28	32	32		
CASING			MATERIAL		EG/GI			
			THICKNESS		mm			
			FINISHING		0.5~2.0			
SOUND PRESSURE LEVEL			dBA	44	46	49		
PIPE	TYPE		FLARE VALVE					
	SIZE		mm/in	6.35 / 1/4				
	LIQUID		mm/in	9.52 / 3/8		12.70 / 1/2		
PACKING DIMENSION	HEIGHT		mm/in	575/22.6		620/24.4		
	WIDTH		mm/in	715/28.1		810/31.9		
	DEPTH		mm/in	330/13.0		330/13.0		
REFRIGERANT CHARGE			kg	0.67	0.83	0.85		

Abbreviation

INT. O.L.P - INTERNAL OVERLOAD PROTECTOR
EXT. O.L.P - EXTERNAL OVERLOAD PROTECTOR

- 1) ALL SPECIFICATIONS ARE SUBJECTED TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE.
- 2) ALL UNITS ARE BEING TESTED AND COMPLY TO ARI 210/240-94.
- 3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :
 - a) COOLING - 26.7°C DB / 19.4°C WB INDOOR AND 35°C DB OUTDOOR
 - b) HEATING - 21.1°C DB / 15.6°C WB INDOOR AND 8.3°C DB / 6.1°C WB OUTDOOR

R407C MODELS (COOLING ONLY)

MODEL	INDOOR UNIT		MWM007F	MWM010F	MWM015F	MWM020F	MWM025F	
	OUTDOOR UNIT		M4LC007B	M4LC010B	M4LC015B	M4LC020B	M4LC025B	
NOMINAL COOLING CAPACITY		kcal/h	1870	2268	2772	4612	5292	
		W	2170	2637	3223	5363	6155	
		Btu/h	7400	9000	11000	18300	21000	
INPUT POWER 1/ε [3/ε]		W	856	986	1438	2298 [2079]	2850 [2698]	
RUNNING CURRENT 1/ε [3/ε]		A	3.64	4.38	6.59	10.70 [3.9]	13.30 [5.1]	
POWER SOURCE		V/Ph/Hz	240 / 1 / 50					
INDOOR UNIT	REFRIGERANT / CONTROL		R407C / OUTDOOR CAPILLARY TUBE					
	FAN	AIR FLOW	cfm / L/s	300 / 142	300 / 142	300 / 142	480 / 227	580 / 274
		FAN MOTOR		4 POLES x 10 W	4 POLES x 10 W	4 POLES x 12 W	4 POLES x 20 W	4 POLES x 25 W
		RATED INPUT POWER	W	25	25	26	53	57
		RATED RUNNING CURRENT	A	0.11	0.11	0.11	0.23	0.24
	COIL	FAN MOTOR PROTECTION		THERMAL OVERLOAD RELAY				
		MATERIAL		SEAMLESS COPPER (INNER GROOVED)				
		DIAMETER	mm/in	7.0 / 0.276				
		THICKNESS	mm/in	0.32 / 0.013				
	FIN	MATERIAL		ALUMINIUM (HYDROPHILIC SLIT FIN)				
		THICKNESS	mm/in	0.11 / 0.0043				
		ROW		2				
		FIN PER INCH		18				
	FACE AREA		m ² /ft ²	0.198 / 2.131		0.254 / 2.733		
DIMENSION	HEIGHT	mm/in	290 / 11.4		306 / 12.0			
	WIDTH	mm/in	815 / 32.1		1062 / 41.8			
	DEPTH	mm/in	179 / 7.0		202 / 8.0			
WEIGHT	kg	9.5		38 / 35 / 31		45 / 42 / 39	16	
SOUND PRESSURE LEVEL	dBA	38 / 32 / 29	38 / 34 / 30	38 / 35 / 31		45 / 42 / 39	47 / 44 / 42	
CONTROL	ROOM TEMPERATURE	THERMOSTAT ELECTRONIC CONTROL						
	AIR DISCHARGE OPERATION	LOUVER (UP & DOWN) & GRILLE (LEFT & RIGHT) LCD WIRELESS MICRO COMPUTER REMOTE CONTROL						
CONDENSATE DRAIN SIZE	mm/in	16 / 0.63		20 / 0.79				
AIR FILTER	SARANET+IONIZER+DEODORIZER							
PACKING	HEIGHT	mm/in	371 / 14.6		382 / 15.0			
	WIDTH	mm/in	875 / 34.4		1130 / 44.5			
DIMENSION	DEPTH	mm/in	269 / 10.6		268 / 10.6			
POWER SOURCE	V/Ph/Hz	240 / 1 / 50 / [415 / 3 / 50]						
COMPRESSOR	COMPRESSOR TYPE	ROTARY HERMETIC						
	CAPACITOR 1Ø [3Ø]	µF	25	30	30	45 [NIL]	50 [NIL]	
	RATED RUNNING CURRENT 1Ø [3Ø]	A	3.32	4.00	6.20	9.91 [3.6]	12.50 [4.8]	
	RATED INPUT POWER 1Ø [3Ø]	W	781	900	1350	2112 [1893]	2660 [2508]	
	LOCKED ROTOR AMP. 1/ε [3/ε]	A	15	20	32	58 [21]	58 [26]	
	PROTECTION DEVICE 1Ø [3Ø]		EXT. O.L.P	EXT. O.L.P	EXT. O.L.P	INT. O.L.P [INT. TH. + EXT. P.P]		
FAN	FAN TYPE / DRIVE		PROPELLER / DIRECT					
	BLADE MATERIAL		GLASS REINFORCED ACRYL STYRENE RESIN					
	DIAMETER	mm/in	355 / 14		406 / 16			
	RATED RUNNING CURRENT	A	0.21	0.28	0.56			
	MOTOR OUTPUT	W	20	25	55			
COIL	RATED INPUT POWER	W	50	62	133			
	TUBE	MATERIAL	PLAIN	INNER GROOVED		PLAIN	INNER GROOVED	
		DIAMETER	mm/in	9.52 / 3/8				
		THICKNESS	mm/in	0.35 / 0.014				
	FIN	MATERIAL	ALUMINIUM (SLIT FIN TYPE)					
		THICKNESS	mm/in	0.127 / 0.005				
		ROW		1	1	1	2	
	FIN PER INCH		16	18	19	14		
	FACE AREA		m ² /ft ²	0.25 / 2.66	0.32 / 3.50	0.51 / 5.53		
	DIMENSION	HEIGHT	mm/in	494 / 19.4		646 / 25.4		
WIDTH		mm/in	740 / 29.1		840 / 33.1			
DEPTH		mm/in	270 / 10.6		330 / 13.0			
WEIGHT	kg	27.5	31	34	57	58		
SOUND PRESSURE LEVEL	dBA	47	48	49	52	53		
CASING	MATERIAL	GALVANIZED MILD STEEL						
	THICKNESS	mm/in	0.8 / 0.031					
	FINISHING		EPOXY POLYESTER POWDER					
PIPE	TYPE		FLARE VALVE / AEROQUIP					
	SIZE	LIQUID	mm/in	6.35 / 1/4	6.35 / 1/4	6.35 / 1/4	9.52 / 3/8	
	GAS	mm/in	9.52 / 3/8	12.70 / 1/2	15.88 / 5/8	15.88 / 5/8		
PACKING	HEIGHT	mm/in	558 / 22.0		710 / 28.0			
	WIDTH	mm/in	851 / 33.5		957 / 37.7			
	DEPTH	mm/in	401 / 15.8		461 / 18.1			
REFRIGERANT CHARGE	kg	0.55	0.78	0.93	1.65	1.65		

Abbreviation

INT. TH. - INTERNAL THERMOSTAT
 INT. O.L.P - INTERNAL OVERLOAD PROTECTOR
 EXT. O.L.P - EXTERNAL OVERLOAD PROTECTOR
 EXT P.P - EXTERNAL PHASE PROTECTOR

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 - 26.7°C DB / 19.4°C WB INDOOR AND 35°C DB OUTDOOR

R407C MODELS (COOLING ONLY)

MODEL	INDOOR UNIT		MWM031F
	OUTDOOR UNIT		M4LC031C
NOMINAL COOLING CAPACITY		kcal/h	7308
		W	8499
		Btu/h	29000
INPUT POWER - 1.Æ [3.Æ]		W	2854 [2854]
RUNNING CURRENT - 1.Æ [3.Æ]		A	13.1 [4.9]
POWER SOURCE		V/Ph/Hz	220 - 240 / 1 / 50
REFRIGERANT / CONTROL			R407C / OUTDOOR CAPILLARY TUBE
FAN	FAN TYPE		ANTI FUNGUS CROSS FLOW FAN
	AIR FLOW	cfm / L/s	740 / 349
	FAN MOTOR		4 POLES X 45W
	RATED INPUT POWER	W	71
	RATED RUNNING CURRENT	A	0.30
	FAN MOTOR PROTECTION		THERMAL OVERLOAD RELAY
COIL	TUBE	MATERIAL	SEAMLESS COPPER TUBE
		TUBE PATTERN	INNER GROOVED
	DIAMETER	mm/in	9.52 / 0.375
	THICKNESS	mm/in	0.35 / 0.013
	FIN	MATERIAL	ALUMINIUM (HYDROPHILIC SLIT FIN TYPE)
		THICKNESS	0.11 / 0.0043
	ROW		2
	FIN PER INCH		16
	FACE AREA	m ² /ft ²	0.291 / 3.130
DIMENSION	HEIGHT	mm/in	360 / 14.2
	WIDTH	mm/in	1200 / 47.2
	DEPTH	mm/in	200 / 7.9
WEIGHT		kg	17
SOUND PRESSURE LEVEL - H/M/L		dBA	49 / 47 / 45
CONTROL	ROOM TEMPERATURE		THERMOSTAT ELECTRONIC CONTROL
	AIR DISCHARGE		AUTO LOUVER (UP & DOWN) & GRILLE (LEFT & RIGHT)
	OPERATION		LCD REMOTE CONTROL
CONDENSATE DRAIN SIZE		mm/in	20 / 0.79
AIR FILTER			SARANET + IONIZER+DEODORIZER
PACKING	HEIGHT	mm/in	420 / 16.5
DIMENSION	WIDTH	mm/in	1267 / 49.9
	DEPTH	mm/in	260 / 10.2
COMPRESSOR	COMPRESSOR TYPE		SCROLL
	POWER SOURCE - 1Ø [3Ø]	V/Ph/Hz	220 - 240 / 1 / 50 [380 - 415 / 3 / 50]
	CAPACITOR - 1.Æ [3.Æ]	µF	50 [NIL]
	LOCKED ROTOR AMP. - 1.Æ [3.Æ]	A	82 [40]
	RATED RUNNING CURRENT - 1.Æ [3.Æ]	A	11.8 [4.5]
	INPUT POWER - 1.Æ [3.Æ]	W	2550 [2550]
	PROTECTION DEVICE		INT. O.L.P + HI-LO PRESS. SWITCH
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50
FAN	FAN TYPE / DRIVE		PROPELLER / DIRECT
	BLADE MATERIAL		GLASS REINFORCED ACRYL STYRENE RESIN
	DIAMETER	mm/in	610 / 24
	RATED RUNNING CURRENT	A	1.03
	MOTOR OUTPUT	W	145
	RATED INPUT POWER	W	233
COIL	TUBE	MATERIAL	SEAMLESS COPPER TUBE
		TUBE PATTERN	PLAIN
	DIAMETER	mm/in	9.52 / 3/8
	THICKNESS	mm/in	0.35 / 0.014
	FIN	MATERIAL	ALUMINIUM (CORRUGATED FIN TYPE)
		THICKNESS	0.127 / 0.005
	ROW		1
	FIN PER INCH		16
	FACE AREA	m ² /ft ²	0.87 / 9.33
DIMENSION	HEIGHT	mm/in	850 / 33.46
	WIDTH	mm/in	1030 / 40.55
	DEPTH	mm/in	400 / 15.75
WEIGHT		kg	95
CASING	MATERIAL		GALVANISED MILD STEEL
	THICKNESS	mm/in	0.8 / 0.031
	FINISHING		POLYESTER POWDER
SOUND PRESSURE LEVEL		dBA	58
PIPE	TYPE		FLARE VALVE
	SIZE	LIQUID	9.52 / 3/8
		GAS	15.88 / 5/8
PACKING	HEIGHT	mm/in	1000 / 39.37
DIMENSION	WIDTH	mm/in	1200 / 47.24
	DEPTH	mm/in	560 / 22.05
REFRIGERANT CHARGE		kg	1.9

Abbreviation

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- 26.7°C DB / 19.4°C WB INDOOR AND 35°C DB OUTDOOR

R407C MODELS (HEATPUMP)

MODEL	INDOOR UNIT		MWM007FR	MWM010FR	MWM015FR	MWM020FR	MWM025FR
	OUTDOOR UNIT		M4LC007BR	M4LC010BR	M4LC015BR	M4LC020BR	M4LC025BR
NOMINAL COOLING CAPACITY		kcal/h	1915	2268	2772	4410	5170
		W	2227	2637	3223	5129	6008
NOMINAL HEATING CAPACITY		Btu/h	7600	9000	11000	17500	20500
		kcal/h	1865	2394	3150	4790	8050
		W	2169	2784	3663	5569	7034
INPUT POWER	COOLING	W	795	986	1438	2188 [2079]	2571 [2698]
1.Æ [3.Æ]	HEATING	W	749	836	1288	2282 [2089]	2549 [2780]
RUNNING CURRENT	COOLING	A	3.41	4.38	6.59	10.28 [3.9]	12.60 [5.1]
1.Æ [3.Æ]	HEATING	A	3.21	3.68	6.09	10.88 [3.9]	12.50 [5.2]
POWER SOURCE		V/Ph/Hz	240 / 1 / 50				
REFRIGERANT / CONTROL			R407C / OUTDOOR CAPILLARY TUBE				
AIR FLOW		cfm / L/s	300 / 142	300 / 142	300 / 142	480 / 227	580 / 274
FAN MOTOR			4 POLES x 10 W	4 POLES x 10 W	4 POLES x 12 W	4 POLES x 20 W	4 POLES x 25 W
RATED INPUT POWER		W	25	25	26	53	57
RATED RUNNING CURRENT		A	0.11	0.11	0.11	0.23	0.24
FAN MOTOR PROTECTION			THERMAL OVERLOAD RELAY				
MATERIAL			SEAMLESS COPPER (INNER GROOVED)				
DIAMETER		mm/in	7.0 / 0.276				
THICKNESS		mm/in	0.32 / 0.013				
MATERIAL			ALUMINIUM (HYDROPHILIC SLIT FIN)				
THICKNESS		mm/in	0.11 / 0.0043				
ROW			2			2	
FIN PER INCH			18			18	
FACE AREA		m ² /ft ²	0.198 / 2.131			0.254 / 2.733	
DIMENSION	HEIGHT	mm/in	290 / 11.4			306 / 12.0	
	WIDTH	mm/in	815 / 32.1			1062 / 41.8	
	DEPTH	mm/in	179 / 7.0			202 / 8.0	
WEIGHT		kg	9.5			16	
SOUND PRESSURE LEVEL (H / M / L)		dBA	38 / 32 / 29	38 / 34 / 30	38 / 35 / 31	45 / 42 / 39	47 / 44 / 42
CONTROL	ROOM TEMPERATURE		THERMOSTAT ELECTRONIC CONTROL				
	AIR DISCHARGE OPERATION		LOUVER (UP & DOWN) & GRILLE (LEFT & RIGHT)				
			LCD WIRELESS MICRO COMPUTER REMOTE CONTROL				
CONDENSATE DRAIN SIZE		mm/in	16 / 0.63			20 / 0.79	
AIR FILTER			SARANET+IONIZER+DEODORIZER				
PACKING	HEIGHT	mm/in	371 / 14.6			382 / 15.0	
DIMENSION	WIDTH	mm/in	875 / 34.4			1130 / 44.5	
	DEPTH	mm/in	269 / 10.6			268 / 10.6	
POWER SOURCE		V/Ph/Hz	240 / 1 / 50 [415 / 3 / 50]				
COMPRESSOR TYPE			ROTARY HERMETIC				
CAPACITOR		µF	25	30	30	30 [NIL]	30 [NIL]
RATED RUNNING CURRENT (COOLING) - 1Ø [3Ø]		A	3.09	4.00	6.20	9.50 [3.6]	12.60 [4.8]
RATED RUNNING CURRENT (HEATING) - 1Ø [3Ø]		A	2.89	3.30	5.70	10.10 [3.6]	12.50 [4.9]
RATED INPUT POWER (COOLING) - 1Ø [3Ø]		W	720	900	1350	2002 [1893]	2571 [2508]
RATED INPUT POWER (HEATING) - 1Ø [3Ø]		W	674	750	1200	2096 [1903]	2549 [2590]
LOCKED ROTOR AMP. 1.Æ [3.Æ]		A	15	20	32	58 [21]	58 [26]
PROTECTION DEVICE 1Ø [3Ø]			EXT. O.L.P	EXT. O.L.P	EXT. O.L.P	INT. O.L.P [INT. TH. + EXT. P.P]	
FAN TYPE / DRIVE			PROPELLER / DIRECT				
BLADE MATERIAL			GLASS REINFORCED ACRYL STYRENE RESIN				
DIAMETER		mm/in	355 / 14			406 / 16	
RATED RUNNING CURRENT		A	0.21		0.28	0.56	
MOTOR OUTPUT		W	20		25	55	
RATED INPUT POWER		W	50		62	133	
MATERIAL			INNER GROOVED			PLAIN	INNER GROOVED
DIAMETER		mm/in	9.52 / 3/8				
THICKNESS		mm/in	0.36 / 0.014				
MATERIAL			ALUMINIUM (CORR.)			ALUMINIUM (SLIT FIN TYPE)	
THICKNESS		mm/in	0.127 / 0.005				
ROW			1			2	
FIN PER INCH			19			14	
FACE AREA		m ² /ft ²	0.32 / 3.50			0.51 / 5.53	
DIMENSION	HEIGHT	mm/in	494 / 19.4			646 / 25.4	
	WIDTH	mm/in	740 / 29.1			840 / 33.1	
	DEPTH	mm/in	270 / 10.6			330 / 13.0	
WEIGHT		kg	27.5	31	34	57	58
CASING	MATERIAL		GALVANIZED MILD STEEL				
	THICKNESS	mm/in	0.8 / 0.031				
	FINISHING		EPOXY POLYESTER POWDER				
SOUND PRESSURE LEVEL		dBA	47	48	49	52	53
TYPE			FLARE VALVE / AEROSQUIP				
SIZE	LIQUID	mm/in	6.35 / 1/4	6.35 / 1/4	6.35 / 1/4	6.35 / 1/4	9.52 / 3/8
	GAS	mm/in	9.52 / 3/8	9.52 / 3/8	12.70 / 1/2	15.88 / 5/8	15.88 / 5/8
PACKING	HEIGHT	mm/in	558 / 22.0			710 / 28.0	
DIMENSION	WIDTH	mm/in	851 / 33.5			957 / 37.7	
	DEPTH	mm/in	401 / 15.8			461 / 18.1	
REFRIGERANT CHARGE		kg	0.73	0.85	0.85	1.70	1.65

Abbreviation

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- HEATING - 21.1°C DB / 15.6°C WB INDOOR AND 8.3°C DB / 6.1°C WB OUTDOOR

R407C MODELS (HEATPUMP)

MODEL	INDOOR UNIT		MWM030FR
	OUTDOOR UNIT		M4LC030CR
NOMINAL COOLING CAPACITY		kcal/h	7308
		W	8499
NOMINAL HEATING CAPACITY		Btu/h	29000
		kcal/h	7560
		W	8792
INPUT POWER (COOLING) - 1.Æ [3.Æ]		W	2744 [2714]
INPUT POWER (HEATING) - 1.Æ [3.Æ]		W	2684 [2694]
RUNNING CURRENT(COOLING) - 1.Æ [3.Æ]		A	12.9 [4.7]
RUNNING CURRENT (HEATING) - 1.Æ [3.Æ]		A	12.6 [4.6]
POWER SOURCE		V/Ph/Hz	220 - 240 / 1 / 50
REFRIGERANT / CONTROL			R407C / OUTDOOR TXV
INDOOR UNIT	FAN	FAN TYPE	ANTI FUNGUS CROSS FLOW FAN
		AIR FLOW	cfm / L/s
		FAN MOTOR	740 / 349
		RATED INPUT POWER	4 POLES X 45W
		RATED RUNNING CURRENT	71
	COIL	FAN MOTOR PROTECTION	0.30
		TUBE MATERIAL	THERMAL OVERLOAD RELAY
		TUBE PATTERN	SEAMLESS COPPER TUBE
		DIAMETER	INNER GROOVED
		THICKNESS	9.52 / 0.375
	FIN	THICKNESS	0.35 / 0.013
		MATERIAL	ALUMINIUM (HYDROPHILIC SLIT FIN TYPE)
		THICKNESS	0.11 / 0.0043
		ROW	2
		FIN PER INCH	16
	DIMENSION	FACE AREA	0.291 / 3.130
		HEIGHT	mm/in
		WIDTH	360 / 14.2
	WEIGHT	DEPTH	1200 / 47.2
			200 / 7.9
	CONTROL	ROOM TEMPERATURE	kg
		AIR DISCHARGE OPERATION	17
	CONDENSATE DRAIN SIZE	SOUND PRESSURE LEVEL - H / M / L	49 / 47 / 45
			dBA
	AIR FILTER	ROOM TEMPERATURE	THERMOSTAT ELECTRONIC CONTROL
		AIR DISCHARGE OPERATION	AUTO LOUVER (UP & DOWN) & GRILLE (LEFT & RIGHT)
	PACKING	CONDENSATE DRAIN SIZE	LCD REMOTE CONTROL
		AIR FILTER	20 / 0.79
	DIMENSION	PACKING	SARANET+IONIZER+DEODORIZER
		HEIGHT	420 / 16.5
	WEIGHT	WIDTH	1267 / 49.9
		DEPTH	260 / 10.2
OUTDOOR UNIT	COMPRESSOR	COMPRESSOR TYPE	SCROLL
		POWER SOURCE	220 - 240 / 1 / 50 [380 - 415 / 3 / 50]
		CAPACITOR - 1.Æ [3.Æ]	µF
		LOCKED ROTOR AMP. - 1.Æ [3.Æ]	50 [NIL]
		RATED RUNNING CURRENT (COOLING) - 1.Æ [3.Æ]	82 [40]
		RATED RUNNING CURRENT (HEATING) - 1.Æ [3.Æ]	11.6 [4.3]
		INPUT POWER (COOLING) - 1.Æ [3.Æ]	11.3 [4.2]
		INPUT POWER (HEATING) - 1.Æ [3.Æ]	2440 [2410]
		PROTECTION DEVICE	2380 [2390]
		INT. O.L.P + HI-LO PRESSURE SWITCH	
	FAN	POWER SOURCE	220 - 240 / 1 / 50
		FAN TYPE / DRIVE	PROPELLER / DIRECT
		BLADE MATERIAL	GLASS REINFORCED ACRYL STYRENE RESIN
		DIAMETER	610 / 24
		RATED RUNNING CURRENT	1.03
	COIL	MOTOR OUTPUT	145
		RATED INPUT POWER	233
		TUBE MATERIAL	SEAMLESS COPPER TUBE
		TUBE PATTERN	PLAIN
		DIAMETER	9.52 / 3/8
	FIN	THICKNESS	0.35 / 0.014
		MATERIAL	ALUMINIUM (CORRUGATED FIN TYPE)
		THICKNESS	0.127 / 0.005
		ROW	2
		FIN PER INCH	16
	DIMENSION	FACE AREA	0.87 / 9.33
		HEIGHT	mm/in
		WIDTH	850 / 33.46
	WEIGHT	DEPTH	1030 / 40.55
			400 / 15.75
	CASING	WEIGHT	95
		MATERIAL	GALVANISED MILD STEEL
	SOUND PRESSURE LEVEL	THICKNESS	0.8 / 0.031
		FINISHING	POLYESTER POWDER
	PIPE	TYPE	58
		SIZE	FLARE VALVE
	PACKING	LIQUID	9.52 / 3/8
		GAS	15.88 / 5/8
	DIMENSION	HEIGHT	1000 / 39.37
		WIDTH	1200 / 47.24
		DEPTH	560 / 22.05
	REFRIGERANT CHARGE		kg
			2.3

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- HEATING - 21.1°C DB / 15.6°C WB INDOOR AND 8.3°C DB / 6.1°C WB OUTDOOR

Performance Table

R22 MODELS

(COOLING ONLY)

MODEL : MWM 007F / MLC 007B

Indoor DB ° C	Indoor WB ° C	Capacity kW	Outdoor DB, ° C					
			19.4	25	30	35	40	46
26.7	13.9	TC	2.525	2.331	2.157	1.984	1.810	1.602
		SC	2.525	2.331	2.157	1.984	1.810	1.602
	15	TC	2.594	2.395	2.217	2.038	1.860	1.646
		SC	2.413	2.243	2.090	1.938	1.786	1.603
	18	TC	2.784	2.570	2.378	2.187	1.996	1.767
		SC	2.110	2.003	1.908	1.813	1.718	1.604
	19.4	TC	2.872	2.651	2.454	2.257	2.060	1.823
		SC	1.968	1.891	1.823	1.755	1.686	1.604
	20	TC	2.910	2.691	2.497	2.302	2.107	1.873
		SC	1.907	1.832	1.765	1.698	1.630	1.550
	22	TC	3.036	2.826	2.639	2.451	2.264	2.039
		SC	1.705	1.634	1.571	1.507	1.444	1.368
	24	TC	3.162	2.961	2.781	2.601	2.421	2.205
		SC	1.502	1.436	1.376	1.317	1.257	1.186

MODEL : MWM 010F / MLC 010B

Indoor DB ° C	Indoor WB ° C	Capacity kW	Outdoor DB, ° C					
			19.4	25	30	35	40	46
26.7	13.9	TC	2.758	2.602	2.463	2.324	2.185	2.018
		SC	2.758	2.602	2.463	2.324	2.185	2.018
	15	TC	2.904	2.733	2.581	2.428	2.276	2.092
		SC	2.565	2.439	2.327	2.215	2.103	1.968
	18	TC	3.302	3.090	2.900	2.711	2.522	2.294
		SC	2.039	1.995	1.956	1.917	1.878	1.831
	19.4	TC	3.487	3.256	3.049	2.843	2.636	2.389
		SC	1.794	1.788	1.783	1.778	1.773	1.768
	20	TC	3.567	3.329	3.117	2.906	2.694	2.439
		SC	1.688	1.689	1.691	1.692	1.693	1.694
	22	TC	3.832	3.574	3.344	3.114	2.884	2.608
		SC	1.338	1.361	1.382	1.402	1.423	1.448
	24	TC	4.097	3.819	3.571	3.323	3.075	2.778
		SC	0.987	1.032	1.073	1.113	1.154	1.202

MODEL : MWM 015F / MLC 015B

Indoor DB ° C	Indoor WB ° C	Capacity kW	Outdoor DB, ° C					
			19.4	25	30	35	40	46
26.7	13.9	TC	3.192	3.076	2.973	2.870	2.767	2.643
		SC	3.073	2.983	2.902	2.821	2.740	2.643
	15	TC	3.522	3.349	3.195	3.040	2.886	2.700
		SC	2.994	2.898	2.812	2.726	2.640	2.536
	18	TC	4.424	4.094	3.800	3.505	3.211	2.857
		SC	2.779	2.666	2.566	2.466	2.366	2.246
	19.4	TC	4.844	4.442	4.082	3.722	3.362	2.931
		SC	2.678	2.558	2.452	2.345	2.238	2.110
	20	TC	5.025	4.603	4.227	3.851	3.474	3.023
		SC	2.635	2.510	2.398	2.287	2.175	2.042
	22	TC	5.626	5.142	4.711	4.279	3.848	3.330
		SC	2.491	2.348	2.221	2.094	1.966	1.813
	24	TC	6.227	5.681	5.195	4.708	4.221	3.637
		SC	2.347	2.187	2.044	1.900	1.757	1.585

All the data above are based on 26.7°C entering DB. To obtain data for different entering DB, please use the formula below :

Sensible capacity (@EDB) = Sensible capacity (@26.7) + 1.23 x L/s x (1 - BPF) (EDB - 26.7) / 1000

Where, BPF = Bypass factor

EDB = Entering dry bulb temperature, ° C

	MWM 007F MLC 007B	MWM 010F MLC 010B	MWM 015F MLC 015B
Bypass Factor	0.30	0.27	0.34

MODEL : MWM 020F / MLC 020B

Indoor DB ° C	Indoor WB ° C	Capacity kW	Outdoor DB, ° C								
			19.4	25	30	35	40	46	50	52	54
26.7	13.9	TC	5.161	4.907	4.680	4.453	4.030	3.738	3.597	3.542	3.498
		SC	4.729	4.565	4.420	4.274	3.868	3.588	3.452	3.400	3.357
	15	TC	5.399	5.139	4.908	4.676	4.232	3.925	3.777	3.719	3.673
		SC	4.479	4.350	4.234	4.119	3.728	3.458	3.327	3.276	3.236
	18	TC	6.047	5.774	5.529	5.285	4.783	4.436	4.268	4.203	4.151
		SC	3.797	3.761	3.728	3.696	3.345	3.103	2.985	2.940	2.903
	19.4	TC	6.350	6.069	5.819	5.569	5.040	4.674	4.498	4.429	4.374
		SC	3.479	3.486	3.492	3.499	3.167	2.937	2.826	2.783	2.748
	20	TC	6.480	6.183	5.919	5.655	5.118	4.747	4.567	4.498	4.442
		SC	3.343	3.347	3.351	3.355	3.036	2.816	2.709	2.668	2.635
	22	TC	6.912	6.563	6.252	5.941	5.377	4.987	4.799	4.726	4.667
		SC	2.889	2.884	2.879	2.874	2.601	2.413	2.321	2.286	2.258
	24	TC	7.344	6.943	6.586	6.228	5.637	5.228	5.030	4.954	4.892
		SC	2.434	2.420	2.407	2.394	2.166	2.009	1.933	1.904	1.880
								HIGH AMBIENT			

MODEL : MWM 025F / MLC 025B

Indoor DB ° C	Indoor WB ° C	Capacity kW	Outdoor DB, ° C								
			19.4	25	30	35	40	46	50	52	54
26.7	13.9	TC	5.970	5.765	5.581	5.398	5.231	4.966	4.838	4.789	4.750
		SC	5.692	5.545	5.414	5.283	5.120	4.860	4.735	4.687	4.649
	15	TC	6.605	6.289	6.007	5.725	5.549	5.267	5.131	5.079	5.038
		SC	5.492	5.336	5.196	5.057	4.901	4.652	4.532	4.486	4.450
	18	TC	8.337	7.720	7.169	6.617	6.414	6.088	5.931	5.871	5.824
		SC	4.947	4.765	4.602	4.440	4.303	4.084	3.979	3.939	3.907
	19.4	TC	9.145	8.388	7.711	7.034	6.817	6.471	6.305	6.241	6.190
		SC	4.692	4.498	4.325	4.152	4.024	3.819	3.721	3.684	3.654
	20	TC	9.492	8.697	7.988	7.279	7.055	6.696	6.524	6.458	6.405
		SC	4.583	4.385	4.209	4.033	3.909	3.710	3.615	3.578	3.549
	22	TC	10.647	9.730	8.913	8.095	7.845	7.447	7.255	7.182	7.123
		SC	4.219	4.010	3.823	3.636	3.525	3.345	3.260	3.227	3.200
	24	TC	11.801	10.764	9.837	8.911	8.636	8.197	7.987	7.906	7.841
		SC	3.855	3.634	3.437	3.240	3.141	2.981	2.904	2.875	2.852
								HIGH AMBIENT			

MODEL : MWM 031F / MLC 031B

Indoor DB ° C	Indoor WB ° C	Capacity kW	Outdoor DB, ° C								
			19.4	25	30	35	40	46	50	52	54
26.7	13.9	TC	6.887	6.620	6.382	6.143	5.849	5.541	5.302	5.172	5.035
		SC	6.628	6.415	6.225	6.036	5.746	5.541	5.209	5.081	4.947
	15	TC	7.525	7.156	6.827	6.497	6.186	5.861	5.607	5.470	5.325
		SC	6.471	6.262	6.076	5.889	5.556	5.264	5.037	4.913	4.783
	18	TC	9.263	8.617	8.040	7.463	7.105	6.731	6.441	6.283	6.116
		SC	6.043	5.844	5.666	5.489	5.037	4.773	4.566	4.455	4.337
	19.4	TC	10.075	9.299	8.606	7.913	7.534	7.138	6.830	6.662	6.486
		SC	5.844	5.649	5.476	5.302	4.795	4.543	4.347	4.240	4.128
	20	TC	10.422	9.610	8.885	8.160	7.768	7.360	7.042	6.870	6.688
		SC	5.758	5.545	5.355	5.164	4.624	4.381	4.192	4.089	3.981
	22	TC	11.581	10.648	9.815	8.981	8.551	8.101	7.751	7.561	7.361
		SC	5.473	5.198	4.952	4.706	4.052	3.839	3.673	3.583	3.488
	24	TC	12.740	11.686	10.744	9.803	9.333	8.842	8.460	8.253	8.034
		SC	5.188	4.851	4.549	4.247	3.480	3.297	3.155	3.078	2.996
								HIGH AMBIENT			

All the data above are based on 26.7°C entering DB. To obtain data for different entering DB, please use the formula below :

$$\text{Sensible capacity (EDB)} = \text{Sensible capacity (26.7)} + 1.23 \times \text{L/s} \times (1 - \text{BPF}) \times (\text{EDB} - 26.7) / 1000$$

Where, BPF = Bypass factor

EDB = Entering dry bulb temperature, ° C

	MWM 020F MLC 020B	MWM 025F MLC 025B	MWM 031F MLC 031B
Bypass Factor	0.35	0.36	0.38

MODEL : MWM 031F / MLC 031C

Indoor DB ° C	Indoor WB ° C	Capacity kW	Outdoor DB, ° C								
			19.4	25	30	35	40	46	50	52	54
26.7	13.9	TC	8.060	7.677	7.336	6.994	6.659	6.309	6.036	5.888	5.732
		SC	7.613	7.325	7.067	6.809	6.483	6.142	5.877	5.733	5.581
	15	TC	8.539	8.113	7.734	7.354	7.001	6.633	6.347	6.191	6.027
		SC	7.299	7.038	6.806	6.573	6.204	5.878	5.624	5.486	5.341
	18	TC	9.845	9.303	8.819	8.335	7.935	7.518	7.193	7.017	6.831
		SC	6.443	6.258	6.093	5.928	5.444	5.158	4.935	4.814	4.687
	19.4	TC	10.455	9.858	9.325	8.792	8.371	7.931	7.588	7.402	7.206
		SC	6.044	5.894	5.761	5.627	5.090	4.822	4.614	4.501	4.382
	20	TC	10.716	10.091	9.533	8.975	8.544	8.095	7.746	7.556	7.356
		SC	5.872	5.717	5.578	5.440	4.868	4.612	4.413	4.304	4.190
	22	TC	11.587	10.868	10.225	9.582	9.123	8.643	8.270	8.067	7.854
		SC	5.302	5.126	4.970	4.814	4.128	3.911	3.742	3.650	3.554
	24	TC	12.458	11.644	10.917	10.190	9.701	9.191	8.794	8.579	8.352
		SC	4.731	4.536	4.362	4.187	3.388	3.210	3.071	2.996	2.917
HIGH AMBIENT											

All the data above are based on 26.7°C entering DB. To obtain data for different entering DB, please use the formula below :

$$\text{Sensible capacity (EDB)} = \text{Sensible capacity (26.7)} + 1.23 \times \text{L/s} \times (1 - \text{BPF}) \times (\text{EDB} - 26.7) / 1000$$

Where, BPF = Bypass factor
EDB = Entering dry bulb temperature, ° C

	MWM 031F MLC 031C
Bypass Factor	0.32

MODEL : MWM 007F / MLC 007C

Indoor DB ° C	Indoor WB ° C	Capacity kW	Outdoor DB, ° C					
			19.4	25	30	35	40	46
26.7	13.9	TC	2.580	2.357	2.157	1.958	1.758	1.519
		SC	2.580	2.357	2.157	1.958	1.758	1.519
	15	TC	2.600	2.383	2.188	1.994	1.800	1.567
		SC	2.416	2.231	2.065	1.900	1.734	1.535
	18	TC	2.654	2.453	2.273	2.093	1.913	1.698
		SC	1.970	1.888	1.815	1.741	1.668	1.580
	19.4	TC	2.680	2.486	2.313	2.140	1.966	1.758
		SC	1.762	1.728	1.698	1.667	1.637	1.600
	20	TC	2.691	2.504	2.336	2.169	2.002	1.802
		SC	1.673	1.645	1.619	1.594	1.569	1.539
	22	TC	2.727	2.563	2.416	2.269	2.122	1.946
		SC	1.376	1.367	1.359	1.350	1.342	1.333
	24	TC	2.763	2.622	2.495	2.369	2.242	2.090
		SC	1.078	1.089	1.098	1.107	1.116	1.127

MODEL : MWM 010F / MLC 010C

Indoor DB ° C	Indoor WB ° C	Capacity kW	Outdoor DB, ° C					
			19.4	25	30	35	40	46
26.7	13.9	TC	2.859	2.682	2.524	2.366	2.208	2.018
		SC	2.859	2.682	2.524	2.366	2.208	2.018
	15	TC	3.005	2.810	2.636	2.461	2.287	2.078
		SC	2.702	2.547	2.409	2.271	2.133	1.967
	18	TC	3.405	3.159	2.940	2.721	2.503	2.240
		SC	2.276	2.181	2.096	2.012	1.927	1.826
	19.4	TC	3.591	3.322	3.083	2.843	2.603	2.315
		SC	2.076	2.010	1.950	1.891	1.831	1.760
	20	TC	3.671	3.398	3.155	2.911	2.668	2.376
		SC	1.991	1.929	1.874	1.819	1.763	1.697
	22	TC	3.937	3.651	3.395	3.139	2.884	2.577
		SC	1.707	1.661	1.619	1.578	1.537	1.487
	24	TC	4.204	3.903	3.635	3.367	3.099	2.778
		SC	1.422	1.392	1.365	1.338	1.311	1.278

MODEL : MWM 015F / MLC 015C

Indoor DB ° C	Indoor WB ° C	Capacity kW	Outdoor DB, ° C					
			19.4	25	30	35	40	46
26.7	13.9	TC	3.400	3.210	3.040	2.870	2.701	2.497
		SC	3.142	3.006	2.885	2.764	2.643	2.497
	15	TC	3.548	3.351	3.175	3.000	2.824	2.613
		SC	2.971	2.854	2.750	2.645	2.541	2.416
	18	TC	3.952	3.737	3.545	3.352	3.160	2.930
		SC	2.502	2.438	2.380	2.322	2.265	2.196
	19.4	TC	4.140	3.917	3.717	3.517	3.317	3.077
		SC	2.284	2.243	2.208	2.172	2.136	2.093
	20	TC	4.221	3.990	3.784	3.578	3.372	3.124
		SC	2.190	2.152	2.119	2.085	2.051	2.011
	22	TC	4.491	4.236	4.008	3.781	3.553	3.280
		SC	1.878	1.849	1.823	1.797	1.771	1.740
	24	TC	4.760	4.481	4.232	3.984	3.735	3.436
		SC	1.565	1.545	1.527	1.508	1.490	1.468

All the data above are based on 26.7°C entering DB. To obtain data for different entering DB, please use the formula below :

Sensible capacity (@EDB) = Sensible capacity (@26.7) + 1.23 x L/s x (1 - BPF) (EDB - 26.7) / 1000

Where, BPF = Bypass factor

EDB = Entering dry bulb temperature, ° C

	MWM 007F MLC 007C	MWM 010F MLC 010C	MWM 015F MLC 015C
Bypass Factor	0.28	0.29	0.32

R22 MODELS
(HEATPUMP – COOLING MODE)

MODEL : MWM 007FR / MLC 007BR

Indoor DB ° C	Indoor WB ° C	Capacity kW	Outdoor DB, ° C					
			19.4	25	30	35	40	46
26.7	13.9	TC	2.534	2.338	2.162	1.987	1.812	1.602
		SC	2.534	2.338	2.162	1.987	1.812	1.602
	15	TC	2.563	2.376	2.208	2.041	1.874	1.673
		SC	2.390	2.227	2.081	1.935	1.790	1.615
	18	TC	2.643	2.480	2.334	2.188	2.042	1.867
		SC	1.999	1.925	1.859	1.793	1.727	1.648
	19.4	TC	2.681	2.529	2.393	2.257	2.121	1.958
		SC	1.817	1.784	1.756	1.727	1.698	1.664
	20	TC	2.697	2.548	2.415	2.282	2.149	1.990
		SC	1.738	1.709	1.683	1.657	1.631	1.599
	22	TC	2.750	2.613	2.490	2.367	2.245	2.097
		SC	1.478	1.458	1.440	1.422	1.405	1.383
	24	TC	2.804	2.678	2.565	2.453	2.340	2.205
		SC	1.217	1.206	1.197	1.188	1.179	1.168

MODEL : MWM 010FR / MLC 010BR

Indoor DB ° C	Indoor WB ° C	Capacity kW	Outdoor DB, ° C					
			19.4	25	30	35	40	46
26.7	13.9	TC	2.662	2.518	2.389	2.260	2.131	1.977
		SC	2.662	2.518	2.389	2.260	2.131	1.977
	15	TC	2.849	2.675	2.520	2.365	2.210	2.024
		SC	2.557	2.422	2.302	2.182	2.062	1.918
	18	TC	3.357	3.104	2.877	2.651	2.424	2.153
		SC	2.270	2.162	2.066	1.969	1.873	1.757
	19.4	TC	3.595	3.304	3.044	2.784	2.525	2.213
		SC	2.137	2.041	1.955	1.870	1.784	1.682
	20	TC	3.697	3.398	3.132	2.865	2.599	2.279
		SC	2.079	1.984	1.899	1.814	1.729	1.627
	22	TC	4.036	3.712	3.424	3.135	2.846	2.500
		SC	1.888	1.795	1.712	1.629	1.545	1.446
	24	TC	4.375	4.026	3.715	3.404	3.093	2.720
		SC	1.697	1.606	1.525	1.443	1.362	1.264

MODEL : MWM 015FR / MLC 015BR

Indoor DB ° C	Indoor WB ° C	Capacity kW	Outdoor DB, ° C					
			19.4	25	30	35	40	46
26.7	13.9	TC	3.206	3.070	2.949	2.827	2.705	2.559
		SC	3.103	2.988	2.886	2.784	2.682	2.559
	15	TC	3.407	3.254	3.118	2.983	2.847	2.684
		SC	2.954	2.862	2.780	2.698	2.617	2.518
	18	TC	3.953	3.757	3.582	3.407	3.232	3.022
		SC	2.548	2.518	2.491	2.465	2.438	2.406
	19.4	TC	4.208	3.991	3.798	3.605	3.412	3.180
		SC	2.359	2.358	2.357	2.355	2.354	2.353
	20	TC	4.317	4.087	3.882	3.676	3.471	3.225
		SC	2.278	2.273	2.268	2.264	2.259	2.254
	22	TC	4.681	4.406	4.160	3.914	3.668	3.373
		SC	2.007	1.989	1.974	1.958	1.942	1.923
	24	TC	5.045	4.724	4.438	4.152	3.866	3.522
		SC	1.737	1.706	1.679	1.652	1.625	1.592

All the data above are based on 26.7°C entering DB. To obtain data for different entering DB, please use the formula below :

Sensible capacity (@EDB) = Sensible capacity (@26.7) + 1.23 x L/s x (1 - BPF) (EDB - 26.7) / 1000

Where, BPF = Bypass factor

EDB = Entering dry bulb temperature, ° C

	MWM 007FR MLC 007BR	MWM 010FR MLC 010BR	MWM 015FR MLC 015BR
Bypass Factor	0.30	0.36	0.35

MODEL : MWM 020FR / MLC 020BR

Indoor DB ° C	Indoor WB ° C	Capacity kW	Outdoor DB, ° C								
			19.4	25	30	35	40	46	50	52	54
26.7	13.9	TC	4.719	4.558	4.414	4.270	3.865	3.584	3.449	3.396	3.354
		SC	4.632	4.489	4.362	4.234	3.832	3.554	3.420	3.368	3.326
	15	TC	5.264	5.000	4.765	4.530	4.100	3.802	3.659	3.603	3.558
		SC	4.563	4.397	4.249	4.101	3.711	3.442	3.312	3.262	3.221
	18	TC	6.750	6.207	5.723	5.238	4.741	4.397	4.231	4.166	4.115
		SC	4.376	4.146	3.941	3.736	3.382	3.136	3.018	2.972	2.935
	19.4	TC	7.443	6.770	6.169	5.569	5.040	4.674	4.498	4.429	4.374
		SC	4.288	4.029	3.798	3.566	3.228	2.994	2.881	2.837	2.802
	20	TC	7.740	7.038	6.410	5.783	5.234	4.854	4.671	4.600	4.543
		SC	4.251	3.982	3.742	3.501	3.169	2.939	2.828	2.785	2.750
	22	TC	8.731	7.929	7.213	6.497	5.880	5.454	5.247	5.168	5.103
		SC	4.126	3.824	3.554	3.285	2.973	2.757	2.653	2.613	2.580
	24	TC	9.722	8.820	8.016	7.211	6.527	6.053	5.824	5.736	5.664
		SC	4.001	3.666	3.367	3.068	2.777	2.576	2.478	2.441	2.410
									HIGH AMBIENT		

MODEL : MWM 025FR / MLC 025BR

Indoor DB ° C	Indoor WB ° C	Capacity kW	Outdoor DB, ° C								
			19.4	25	30	35	40	46	50	52	54
26.7	13.9	TC	5.551	5.434	5.329	5.224	5.064	4.806	4.683	4.635	4.598
		SC	5.138	5.108	5.081	5.054	4.898	4.649	4.530	4.484	4.447
	15	TC	6.508	6.177	5.882	5.586	5.414	5.139	5.007	4.956	4.916
		SC	4.955	4.893	4.839	4.784	4.637	4.401	4.288	4.245	4.210
	18	TC	9.117	8.204	7.389	6.573	6.371	6.047	5.892	5.832	5.785
		SC	4.454	4.308	4.178	4.048	3.924	3.724	3.629	3.592	3.563
	19.4	TC	10.334	9.150	8.092	7.034	6.817	6.471	6.305	6.241	6.190
		SC	4.220	4.035	3.870	3.705	3.591	3.408	3.321	3.287	3.261
	20	TC	10.856	9.621	8.518	7.415	7.187	6.822	6.646	6.579	6.526
		SC	4.120	3.933	3.766	3.600	3.489	3.311	3.226	3.194	3.168
	22	TC	12.595	11.192	9.940	8.687	8.419	7.991	7.786	7.707	7.645
		SC	3.786	3.593	3.421	3.248	3.148	2.988	2.911	2.882	2.858
	24	TC	14.335	12.764	11.361	9.958	9.652	9.161	8.926	8.835	8.763
		SC	3.452	3.253	3.075	2.897	2.807	2.665	2.596	2.570	2.549
									HIGH AMBIENT		

MODEL : MWM 030FR / MLC 030BR

Indoor DB ° C	Indoor WB ° C	Capacity kW	Outdoor DB, ° C								
			19.4	25	30	35	40	46	50	52	54
26.7	13.9	TC	7.179	6.807	6.474	6.142	5.847	5.540	5.301	5.171	5.034
		SC	7.179	6.807	6.474	6.142	5.847	5.540	5.301	5.171	5.034
	15	TC	7.558	7.156	6.797	6.437	6.129	5.807	5.556	5.420	5.276
		SC	6.836	6.511	6.220	5.930	5.646	5.349	5.118	4.992	4.860
	18	TC	8.592	8.108	7.676	7.244	6.897	6.534	6.252	6.099	5.937
		SC	5.900	5.703	5.528	5.352	5.095	4.828	4.619	4.506	4.387
	19.4	TC	9.075	8.553	8.086	7.620	7.255	6.873	6.577	6.415	6.246
		SC	5.463	5.326	5.204	5.082	4.839	4.584	4.386	4.279	4.166
	20	TC	9.282	8.739	8.255	7.771	7.398	7.009	6.707	6.542	6.369
		SC	5.276	5.141	5.020	4.899	4.665	4.419	4.228	4.125	4.016
	22	TC	9.971	9.361	8.817	8.273	7.876	7.462	7.140	6.965	6.780
		SC	4.652	4.522	4.406	4.290	4.084	3.870	3.702	3.612	3.516
	24	TC	10.660	9.983	9.379	8.775	8.354	7.915	7.573	7.387	7.192
		SC	4.027	3.903	3.792	3.680	3.504	3.320	3.176	3.098	3.016
								HIGH AMBIENT			

All the data above are based on 26.7°C entering DB. To obtain data for different entering DB, please use the formula below :

$$\text{Sensible capacity (EDB)} = \text{Sensible capacity (26.7)} + 1.23 \times \text{L/s} \times (1 - \text{BPF}) \times (\text{EDB} - 26.7) / 1000$$

Where, BPF = Bypass factor

EDB = Entering dry bulb temperature, ° C

	MWM 020FR MLC 020BR	MWM 025FR MLC 025BR	MWM 030FR MLC 030BR
Bypass Factor	0.37	0.40	0.27

MODEL : MWM 030FR / MLC 030CR

Indoor DB ° C	Indoor WB ° C	Capacity kW	Outdoor DB, ° C								
			19.4	25	30	35	40	46	50	52	54
26.7	13.9	TC	7.491	7.228	6.994	6.759	6.435	6.097	5.833	5.690	5.540
		SC	7.444	7.191	6.965	6.740	6.416	6.079	5.817	5.674	5.524
	15	TC	8.152	7.798	7.482	7.166	6.822	6.464	6.184	6.033	5.873
		SC	6.887	6.734	6.597	6.461	6.151	5.828	5.576	5.439	5.295
	18	TC	9.955	9.352	8.813	8.275	7.878	7.464	7.142	6.967	6.782
		SC	5.368	5.487	5.594	5.701	5.427	5.142	4.920	4.799	4.672
	19.4	TC	10.796	10.077	9.435	8.792	8.371	7.931	7.588	7.402	7.206
		SC	4.659	4.906	5.126	5.346	5.090	4.822	4.614	4.501	4.382
	20	TC	11.156	10.395	9.714	9.034	8.601	8.149	7.797	7.606	7.404
		SC	4.355	4.605	4.828	5.051	4.808	4.556	4.359	4.252	4.140
	22	TC	12.358	11.454	10.647	9.840	9.368	8.876	8.492	8.284	8.065
		SC	3.343	3.603	3.835	4.067	3.872	3.668	3.510	3.424	3.333
	24	TC	13.560	12.514	11.579	10.645	10.135	9.602	9.187	8.962	8.725
		SC	2.330	2.600	2.841	3.083	2.935	2.781	2.661	2.595	2.527
									HIGH AMBIENT		

All the data above are based on 26.7°C entering DB. To obtain data for different entering DB, please use the formula below :

$$\text{Sensible capacity (EDB)} = \text{Sensible capacity (26.7)} + 1.23 \times \text{L/s} \times (1 - \text{BPF}) \times (\text{EDB} - 26.7) / 1000$$

Where, BPF = Bypass factor
EDB = Entering dry bulb temperature, ° C

	MWM 030FR MLC 030CR
Bypass Factor	0.37

MODEL : MWM 007FR / MLC 007CR

Indoor DB ° C	Indoor WB ° C	Capacity kW	Outdoor DB, ° C					
			19.4	25	30	35	40	46
26.7	13.9	TC	2.492	2.305	2.137	1.970	1.803	1.602
		SC	2.492	2.305	2.137	1.970	1.803	1.602
	15	TC	2.533	2.352	2.190	2.027	1.865	1.671
		SC	2.351	2.199	2.064	1.929	1.794	1.632
	18	TC	2.646	2.480	2.332	2.184	2.036	1.858
		SC	1.965	1.912	1.865	1.817	1.770	1.713
	19.4	TC	2.699	2.540	2.398	2.257	2.115	1.945
		SC	1.785	1.778	1.772	1.765	1.758	1.751
	20	TC	2.721	2.565	2.425	2.286	2.146	1.979
		SC	1.708	1.702	1.696	1.690	1.685	1.678
	22	TC	2.796	2.648	2.516	2.383	2.251	2.092
		SC	1.451	1.448	1.445	1.442	1.439	1.436
	24	TC	2.872	2.731	2.606	2.481	2.355	2.205
		SC	1.195	1.194	1.194	1.194	1.193	1.193

MODEL : MWM 010FR / MLC 010CR

Indoor DB ° C	Indoor WB ° C	Capacity kW	Outdoor DB, ° C					
			19.4	25	30	35	40	46
26.7	13.9	TC	2.881	2.691	2.521	2.351	2.181	1.977
		SC	2.881	2.691	2.521	2.351	2.181	1.977
	15	TC	3.028	2.816	2.627	2.437	2.248	2.021
		SC	2.728	2.564	2.418	2.272	2.126	1.951
	18	TC	3.429	3.158	2.916	2.674	2.432	2.142
		SC	2.311	2.220	2.139	2.058	1.977	1.880
	19.4	TC	3.616	3.317	3.051	2.784	2.518	2.198
		SC	2.116	2.059	2.009	1.958	1.907	1.846
	20	TC	3.696	3.395	3.126	2.857	2.589	2.266
		SC	2.033	1.979	1.931	1.883	1.836	1.778
	22	TC	3.963	3.653	3.377	3.101	2.825	2.493
		SC	1.755	1.712	1.673	1.635	1.597	1.551
	24	TC	4.230	3.912	3.628	3.345	3.061	2.720
		SC	1.477	1.444	1.416	1.387	1.358	1.324

MODEL : MWM 015FR / MLC 015CR

Indoor DB ° C	Indoor WB ° C	Capacity kW	Outdoor DB, ° C					
			19.4	25	30	35	40	46
26.7	13.9	TC	3.283	3.117	2.970	2.822	2.674	2.497
		SC	3.026	2.914	2.815	2.716	2.616	2.497
	15	TC	3.537	3.330	3.146	2.961	2.776	2.555
		SC	2.926	2.816	2.718	2.620	2.522	2.404
	18	TC	4.232	3.912	3.626	3.340	3.054	2.711
		SC	2.656	2.549	2.454	2.360	2.265	2.151
	19.4	TC	4.556	4.183	3.850	3.517	3.184	2.784
		SC	2.529	2.425	2.331	2.238	2.145	2.033
	20	TC	4.695	4.311	3.967	3.624	3.281	2.869
		SC	2.475	2.368	2.272	2.176	2.080	1.965
	22	TC	5.158	4.736	4.359	3.982	3.605	3.153
		SC	2.295	2.178	2.073	1.969	1.864	1.739
	24	TC	5.621	5.161	4.751	4.340	3.929	3.436
		SC	2.114	1.988	1.875	1.762	1.649	1.513

All the data above are based on 26.7°C entering DB. To obtain data for different entering DB, please use the formula below :

Sensible capacity (@EDB) = Sensible capacity (@26.7) + 1.23 x L/s x (1 - BPF) (EDB - 26.7) / 1000

Where, BPF = Bypass factor

EDB = Entering dry bulb temperature, ° C

	MWM 007FR MLC 007CR	MWM 010FR MLC 010CR	MWM 015FR MLC 015CR
Bypass Factor	0.29	0.29	0.35

R22 MODELS
(HEATPUMP – HEATING MODE)

MODEL : MWM 007FR / MLC 007BR

(HEATING MODE)

		Indoor DB°C						FROST REGION
Outdoor WB°C	kW	15.0	17.0	19.0	21.0	24.0	26.7	
-9.0	TC	1.322	1.302	1.283	1.263	1.257	1.252	
	SC	1.322	1.302	1.283	1.263	1.257	1.252	
-5.0	TC	1.565	1.551	1.537	1.523	1.502	1.483	
	SC	1.565	1.551	1.537	1.523	1.502	1.483	
6.0	TC	2.233	2.270	2.308	2.345	2.225	2.117	
	SC	2.233	2.270	2.308	2.345	2.225	2.117	
12.0	TC	2.598	2.575	2.551	2.528	2.494	2.462	
	SC	2.598	2.575	2.551	2.528	2.494	2.462	
15.0	TC	2.780	2.755	2.731	2.706	2.669	2.635	
	SC	2.780	2.755	2.731	2.706	2.669	2.635	
18.3	TC	2.981	2.954	2.928	2.901	2.861	2.825	
	SC	2.981	2.954	2.928	2.901	2.861	2.825	

MODEL : MWM 010FR / MLC 010BR

(HEATING MODE)

		Indoor DB°C						FROST REGION
Outdoor WB°C	kW	15.0	17.0	19.0	21.0	24.0	26.7	
-9.0	TC	1.612	1.596	1.581	1.565	1.545	1.527	
	SC	1.612	1.596	1.581	1.565	1.545	1.527	
-5.0	TC	1.861	1.844	1.828	1.811	1.786	1.763	
	SC	1.861	1.844	1.828	1.811	1.786	1.763	
6.0	TC	2.547	2.695	2.842	2.989	2.687	2.414	
	SC	2.547	2.695	2.842	2.989	2.687	2.414	
12.0	TC	2.922	2.896	2.870	2.843	2.804	2.769	
	SC	2.922	2.896	2.870	2.843	2.804	2.769	
15.0	TC	3.109	3.081	3.053	3.026	2.984	2.947	
	SC	3.109	3.081	3.053	3.026	2.984	2.947	
18.3	TC	3.315	3.285	3.256	3.226	3.182	3.142	
	SC	3.315	3.285	3.256	3.226	3.182	3.142	

MODEL : MWM 015FR / MLC 015BR

(HEATING MODE)

		Indoor DB°C						FROST REGION
Outdoor WB°C	kW	15.0	17.0	19.0	21.0	24.0	26.7	
-9.0	TC	1.966	1.930	1.894	1.858	1.860	1.862	
	SC	1.966	1.930	1.894	1.858	1.860	1.862	
-5.0	TC	2.366	2.345	2.324	2.303	2.271	2.242	
	SC	2.366	2.345	2.324	2.303	2.271	2.242	
6.0	TC	3.468	3.582	3.696	3.810	3.535	3.287	
	SC	3.468	3.582	3.696	3.810	3.535	3.287	
12.0	TC	4.069	4.033	3.996	3.960	3.906	3.857	
	SC	4.069	4.033	3.996	3.960	3.906	3.857	
15.0	TC	4.369	4.330	4.291	4.252	4.194	4.141	
	SC	4.369	4.330	4.291	4.252	4.194	4.141	
18.3	TC	4.700	4.658	4.616	4.574	4.511	4.455	
	SC	4.700	4.658	4.616	4.574	4.511	4.455	

MODEL : MWM 020FR / MLC 020BR**(HEATING MODE)**

Outdoor WB°C	kW	Indoor DB°C						
		15.0	17.0	19.0	21.0	24.0	26.7	
-9.0	TC	3.686	3.651	3.616	3.581	3.535	3.493	FROST REGION
	SC	3.686	3.651	3.616	3.581	3.535	3.493	
-5.0	TC	4.254	4.216	4.178	4.140	4.083	4.031	
	SC	4.254	4.216	4.178	4.140	4.083	4.031	
6.0	TC	5.816	5.832	5.847	5.862	5.678	5.513	
	SC	5.816	5.832	5.847	5.862	5.678	5.513	
12.0	TC	6.668	6.609	6.550	6.490	6.401	6.320	
	SC	6.668	6.609	6.550	6.490	6.401	6.320	
15.0	TC	7.094	7.031	6.968	6.905	6.810	6.724	
	SC	7.094	7.031	6.968	6.905	6.810	6.724	
18.3	TC	7.563	7.496	7.428	7.361	7.260	7.169	
	SC	7.563	7.496	7.428	7.361	7.260	7.169	

MODEL : MWM 025FR / MLC 025BR**(HEATING MODE)**

Outdoor WB°C	kW	Indoor DB°C						
		15.0	17.0	19.0	21.0	24.0	26.7	
-9.0	TC	4.094	4.052	4.010	3.968	3.921	3.879	FROST REGION
	SC	4.094	4.052	4.010	3.968	3.921	3.879	
-5.0	TC	4.744	4.701	4.659	4.616	4.552	4.495	
	SC	4.744	4.701	4.659	4.616	4.552	4.495	
6.0	TC	6.529	6.795	7.061	7.327	6.727	6.188	
	SC	6.529	6.795	7.061	7.327	6.727	6.188	
12.0	TC	7.502	7.435	7.369	7.302	7.201	7.111	
	SC	7.502	7.435	7.369	7.302	7.201	7.111	
15.0	TC	7.989	7.918	7.847	7.776	7.669	7.572	
	SC	7.989	7.918	7.847	7.776	7.669	7.572	
18.3	TC	8.525	8.449	8.373	8.297	8.183	8.080	
	SC	8.525	8.449	8.373	8.297	8.183	8.080	

MODEL : MWM 030FR / MLC 030BR**(HEATING MODE)**

Outdoor WB°C	kW	Indoor DB°C						
		15.0	17.0	19.0	21.0	24.0	26.7	
-9.0	TC	4.711	4.645	4.579	4.513	4.487	4.463	FROST REGION
	SC	4.711	4.645	4.579	4.513	4.487	4.463	
-5.0	TC	5.556	5.506	5.457	5.407	5.332	5.265	
	SC	5.556	5.506	5.457	5.407	5.332	5.265	
6.0	TC	7.882	7.990	8.098	8.206	7.819	7.470	
	SC	7.882	7.990	8.098	8.206	7.819	7.470	
12.0	TC	9.150	9.069	8.987	8.905	8.783	8.673	
	SC	9.150	9.069	8.987	8.905	8.783	8.673	
15.0	TC	9.784	9.697	9.610	9.523	9.392	9.274	
	SC	9.784	9.697	9.610	9.523	9.392	9.274	
18.3	TC	10.482	10.389	10.295	10.202	10.062	9.936	
	SC	10.482	10.389	10.295	10.202	10.062	9.936	

MODEL : MWM 030FR / MLC 030CR

(HEATING MODE)

		Indoor DB°C					
Outdoor WB°C	kW	15.0	17.0	19.0	21.0	24.0	26.7
-9.0	TC	5.513	5.460	5.407	5.355	5.285	5.223
	SC	5.513	5.460	5.407	5.355	5.285	5.223
-5.0	TC	6.365	6.308	6.251	6.194	6.108	6.031
	SC	6.365	6.308	6.251	6.194	6.108	6.031
6.0	TC	8.709	8.737	8.765	8.792	8.509	8.254
	SC	8.709	8.737	8.765	8.792	8.509	8.254
12.0	TC	9.987	9.898	9.809	9.720	9.586	9.466
	SC	9.987	9.898	9.809	9.720	9.586	9.466
15.0	TC	10.626	10.531	10.437	10.342	10.200	10.072
	SC	10.626	10.531	10.437	10.342	10.200	10.072
18.3	TC	11.329	11.228	11.127	11.026	10.875	10.739
	SC	11.329	11.228	11.127	11.026	10.875	10.739

FROST REGION

MODEL : MWM 007FR / MLC 007CR**(HEATING MODE)**

		Indoor DB°C						FROST REGION
Outdoor WB°C	kW	15.0	17.0	19.0	21.0	24.0	26.7	
-9.0	TC	1.863	1.870	1.877	1.884	1.821	1.765	
	SC	1.863	1.870	1.877	1.884	1.821	1.765	
-5.0	TC	2.009	1.991	1.973	1.955	1.928	1.904	
	SC	2.009	1.991	1.973	1.955	1.928	1.904	
6.0	TC	2.411	2.340	2.269	2.198	2.244	2.285	
	SC	2.411	2.340	2.269	2.198	2.244	2.285	
12.0	TC	2.631	2.607	2.584	2.560	2.525	2.493	
	SC	2.631	2.607	2.584	2.560	2.525	2.493	
15.0	TC	2.740	2.716	2.691	2.667	2.630	2.597	
	SC	2.740	2.716	2.691	2.667	2.630	2.597	
18.3	TC	2.861	2.835	2.810	2.785	2.746	2.712	
	SC	2.861	2.835	2.810	2.785	2.746	2.712	

MODEL : MWM 010FR / MLC 010CR**(HEATING MODE)**

		Indoor DB°C						FROST REGION
Outdoor WB°C	kW	15.0	17.0	19.0	21.0	24.0	26.7	
-9.0	TC	1.644	1.623	1.603	1.583	1.569	1.557	
	SC	1.644	1.623	1.603	1.583	1.569	1.557	
-5.0	TC	1.924	1.907	1.889	1.872	1.846	1.823	
	SC	1.924	1.907	1.889	1.872	1.846	1.823	
6.0	TC	2.694	2.724	2.754	2.784	2.663	2.554	
	SC	2.694	2.724	2.754	2.784	2.663	2.554	
12.0	TC	3.115	3.087	3.059	3.031	2.990	2.952	
	SC	3.115	3.087	3.059	3.031	2.990	2.952	
15.0	TC	3.325	3.295	3.265	3.236	3.191	3.151	
	SC	3.325	3.295	3.265	3.236	3.191	3.151	
18.3	TC	3.556	3.524	3.492	3.461	3.413	3.370	
	SC	3.556	3.524	3.492	3.461	3.413	3.370	

MODEL : MWM 015FR / MLC 015CR**(HEATING MODE)**

		Indoor DB°C						FROST REGION
Outdoor WB°C	kW	15.0	17.0	19.0	21.0	24.0	26.7	
-9.0	TC	2.251	2.224	2.196	2.169	2.150	2.133	
	SC	2.251	2.224	2.196	2.169	2.150	2.133	
-5.0	TC	2.633	2.609	2.585	2.562	2.526	2.494	
	SC	2.633	2.609	2.585	2.562	2.526	2.494	
6.0	TC	3.682	3.627	3.572	3.517	3.502	3.489	
	SC	3.682	3.627	3.572	3.517	3.502	3.489	
12.0	TC	4.254	4.216	4.178	4.140	4.083	4.032	
	SC	4.254	4.216	4.178	4.140	4.083	4.032	
15.0	TC	4.540	4.499	4.459	4.418	4.358	4.303	
	SC	4.540	4.499	4.459	4.418	4.358	4.303	
18.3	TC	4.854	4.811	4.768	4.725	4.660	4.601	
	SC	4.854	4.811	4.768	4.725	4.660	4.601	

**R407C MODELS
(COOLING ONLY)**

MODEL : MWM 007F / M4LC 007B

Indoor DB ° C	Indoor WB ° C	Capacity KW	Outdoor DB, ° C					
			19.4	25	30	35	40	46
26.7	13.9	TC	2.428	2.241	2.074	1.907	1.741	1.541
		SC	2.428	2.241	2.074	1.907	1.741	1.541
	15	TC	2.494	2.303	2.131	1.960	1.789	1.583
		SC	2.321	2.156	2.010	1.863	1.717	1.541
	18	TC	2.676	2.471	2.287	2.103	1.919	1.699
		SC	2.029	1.926	1.835	1.743	1.652	1.542
	19.4	TC	2.761	2.549	2.359	2.170	1.980	1.753
		SC	1.892	1.819	1.753	1.687	1.621	1.542
	20	TC	2.798	2.588	2.400	2.213	2.026	1.801
		SC	1.834	1.761	1.697	1.632	1.568	1.490
	22	TC	2.919	2.717	2.537	2.357	2.177	1.960
		SC	1.639	1.571	1.510	1.449	1.388	1.315
	24	TC	3.040	2.847	2.674	2.501	2.328	2.120
		SC	1.445	1.381	1.323	1.266	1.209	1.140

MODEL : MWM 010F / M4LC 010B

Indoor DB ° C	Indoor WB ° C	Capacity KW	Outdoor DB, ° C					
			19.4	25	30	35	40	46
26.7	13.9	TC	2.559	2.415	2.286	2.157	2.028	1.873
		SC	2.559	2.415	2.286	2.157	2.028	1.873
	15	TC	2.694	2.536	2.395	2.253	2.112	1.942
		SC	2.380	2.264	2.160	2.056	1.952	1.827
	18	TC	3.063	2.867	2.691	2.516	2.340	2.129
		SC	1.892	1.852	1.815	1.779	1.743	1.700
	19.4	TC	3.235	3.021	2.830	2.638	2.447	2.217
		SC	1.664	1.659	1.655	1.650	1.646	1.640
	20	TC	3.309	3.090	2.893	2.696	2.500	2.264
		SC	1.566	1.568	1.569	1.570	1.571	1.572
	22	TC	3.555	3.317	3.104	2.890	2.677	2.421
		SC	1.241	1.263	1.282	1.301	1.321	1.344
	24	TC	3.801	3.544	3.314	3.084	2.854	2.578
		SC	0.916	0.958	0.995	1.033	1.071	1.116

MODEL : MWM 015F / M4LC 015B

Indoor DB ° C	Indoor WB ° C	Capacity KW	Outdoor DB, ° C					
			19.4	25	30	35	40	46
26.7	13.9	TC	2.764	2.664	2.575	2.485	2.396	2.289
		SC	2.661	2.583	2.513	2.443	2.373	2.289
	15	TC	3.050	2.900	2.767	2.633	2.499	2.339
		SC	2.593	2.509	2.435	2.360	2.286	2.196
	18	TC	3.831	3.545	3.290	3.035	2.781	2.475
		SC	2.406	2.309	2.222	2.136	2.049	1.945
	19.4	TC	4.195	3.846	3.535	3.223	2.912	2.538
		SC	2.319	2.216	2.123	2.031	1.938	1.827
	20	TC	4.351	3.986	3.661	3.335	3.009	2.618
		SC	2.282	2.174	2.077	1.981	1.884	1.768
	22	TC	4.872	4.453	4.080	3.706	3.332	2.884
		SC	2.157	2.034	1.923	1.813	1.703	1.570
	24	TC	5.392	4.920	4.498	4.077	3.655	3.149
		SC	2.033	1.894	1.770	1.646	1.522	1.373

All the data above are based on 26.7°C entering DB. To obtain data for different entering DB, please use the formula below :

$$\text{Sensible capacity (@EDB)} = \text{Sensible capacity (@26.7)} + 1.23 \times \text{L/s} \times (1 - \text{BPF}) \times (\text{EDB} - 26.7) / 1000$$

Where, BPF = Bypass factor
EDB = Entering dry bulb temperature, ° C

	MWM 007F M4LC 007B	MWM 010F M4LC 010B	MWM 015F M4LC 015B
Bypass Factor	0.30	0.27	0.34

MODEL : MWM 020F / M4LC 020B

Indoor DB ° C	Indoor WB ° C	Capacity kW	Outdoor DB, ° C								
			19.4	25	30	35	40	46	50	52	54
26.7	13.9	TC	4.970	4.725	4.507	4.288	3.881	3.600	3.464	3.411	3.369
		SC	4.554	4.396	4.256	4.116	3.725	3.455	3.324	3.274	3.233
	15	TC	5.199	4.949	4.726	4.503	4.076	3.780	3.637	3.582	3.537
		SC	4.313	4.189	4.078	3.967	3.590	3.330	3.204	3.155	3.116
	18	TC	5.824	5.560	5.325	5.089	4.606	4.272	4.110	4.048	3.998
		SC	3.657	3.622	3.591	3.559	3.221	2.988	2.875	2.831	2.796
	19.4	TC	6.115	5.845	5.604	5.363	4.854	4.502	4.331	4.265	4.212
		SC	3.351	3.357	3.363	3.369	3.049	2.828	2.721	2.680	2.647
	20	TC	6.240	5.955	5.700	5.445	4.928	4.571	4.398	4.331	4.277
		SC	3.219	3.223	3.227	3.230	2.924	2.712	2.609	2.569	2.538
	22	TC	6.656	6.321	6.021	5.721	5.178	4.803	4.621	4.551	4.494
		SC	2.782	2.777	2.772	2.768	2.505	2.323	2.235	2.201	2.174
	24	TC	7.073	6.687	6.342	5.997	5.428	5.034	4.844	4.770	4.711
		SC	2.344	2.330	2.318	2.305	2.086	1.935	1.862	1.833	1.811
								HIGH AMBIENT			

MODEL : MWM 025F / M4LC 025B

Indoor DB ° C	Indoor WB ° C	Capacity kW	Outdoor DB, ° C								
			19.4	25	30	35	40	46	50	52	54
26.7	13.9	TC	5.224	5.044	4.884	4.723	4.578	4.345	4.233	4.190	4.156
		SC	4.981	4.852	4.737	4.623	4.480	4.252	4.143	4.101	4.068
	15	TC	5.780	5.503	5.256	5.009	4.855	4.608	4.490	4.445	4.408
		SC	4.806	4.669	4.547	4.425	4.288	4.070	3.966	3.926	3.894
	18	TC	7.295	6.755	6.273	5.790	5.612	5.327	5.190	5.137	5.096
		SC	4.328	4.169	4.027	3.885	3.765	3.574	3.482	3.447	3.419
	19.4	TC	8.002	7.339	6.747	6.155	5.965	5.662	5.517	5.461	5.416
		SC	4.105	3.936	3.784	3.633	3.521	3.342	3.256	3.223	3.197
	20	TC	8.305	7.610	6.990	6.369	6.173	5.859	5.708	5.651	5.605
		SC	4.010	3.837	3.683	3.529	3.420	3.246	3.163	3.131	3.105
	22	TC	9.316	8.514	7.798	7.083	6.865	6.516	6.348	6.284	6.233
		SC	3.692	3.509	3.345	3.182	3.084	2.927	2.852	2.823	2.800
	24	TC	10.326	9.418	8.607	7.797	7.557	7.173	6.988	6.918	6.861
		SC	3.373	3.180	3.008	2.835	2.748	2.608	2.541	2.516	2.495
								HIGH AMBIENT			

MODEL : MWM 031F / M4LC 031C

Indoor DB ° C	Indoor WB ° C	Capacity kW	Outdoor DB, ° C								
			19.4	25	30	35	40	46	50	52	54
26.7	13.9	TC	7.791	7.422	7.091	6.761	6.437	6.099	5.835	5.692	5.542
		SC	7.360	7.081	6.832	6.583	6.267	5.938	5.681	5.542	5.395
	15	TC	8.255	7.843	7.476	7.109	6.768	6.412	6.135	5.985	5.827
		SC	7.056	6.804	6.579	6.354	5.998	5.682	5.437	5.304	5.163
	18	TC	9.518	8.993	8.525	8.057	7.671	7.268	6.954	6.783	6.604
		SC	6.229	6.050	5.890	5.731	5.263	4.986	4.771	4.654	4.531
	19.4	TC	10.107	9.530	9.015	8.500	8.092	7.667	7.336	7.156	6.966
		SC	5.842	5.698	5.569	5.440	4.920	4.661	4.460	4.351	4.236
	20	TC	10.360	9.755	9.216	8.676	8.260	7.826	7.488	7.304	7.111
		SC	5.677	5.527	5.393	5.259	4.705	4.458	4.266	4.161	4.051
	22	TC	11.202	10.506	9.884	9.263	8.819	8.356	7.995	7.799	7.592
		SC	5.125	4.956	4.804	4.653	3.990	3.781	3.617	3.529	3.435
	24	TC	12.044	11.256	10.553	9.851	9.378	8.885	8.502	8.293	8.074
		SC	4.573	4.385	4.216	4.048	3.275	3.103	2.969	2.896	2.819
									HIGH AMBIENT		

All the data above are based on 26.7°C entering DB. To obtain data for different entering DB, please use the formula below :

$$\text{Sensible capacity (EDB)} = \text{Sensible capacity (26.7)} + 1.23 \times \text{L/s} \times (1 - \text{BPF}) \times (\text{EDB} - 26.7) / 1000$$

Where, BPF = Bypass factor

EDB = Entering dry bulb temperature, ° C

	MWM 020F M4LC 020B	MWM 025F M4LC 025B	MWM 031F M4LC 031C
Bypass factor	0.35	0.36	0.32

R407C MODELS
(HEATPUMP – COOLING MODE)

MODEL : MWM 007FR / M4LC 007BR

Indoor DB ° C	Indoor WB ° C	Capacity KW	Outdoor DB, ° C					
			19.4	25	30	35	40	46
26.7	13.9	TC	2.501	2.307	2.134	1.962	1.789	1.581
		SC	2.501	2.307	2.134	1.962	1.789	1.581
	15	TC	2.530	2.345	2.180	2.015	1.850	1.652
		SC	2.359	2.198	2.054	1.910	1.766	1.594
	18	TC	2.609	2.448	2.304	2.160	2.016	1.843
		SC	1.973	1.900	1.835	1.770	1.705	1.627
	19.4	TC	2.646	2.496	2.362	2.227	2.093	1.932
		SC	1.793	1.761	1.733	1.705	1.676	1.642
	20	TC	2.662	2.515	2.384	2.253	2.121	1.964
		SC	1.716	1.687	1.661	1.635	1.609	1.579
	22	TC	2.714	2.579	2.458	2.337	2.216	2.070
		SC	1.458	1.439	1.421	1.404	1.386	1.365
	24	TC	2.767	2.643	2.532	2.421	2.310	2.176
		SC	1.201	1.191	1.182	1.172	1.163	1.152

MODEL : MWM 010FR / M4LC 010BR

Indoor DB ° C	Indoor WB ° C	Capacity KW	Outdoor DB, ° C					
			19.4	25	30	35	40	46
26.7	13.9	TC	2.521	2.384	2.262	2.140	2.018	1.872
		SC	2.521	2.384	2.262	2.140	2.018	1.872
	15	TC	2.698	2.533	2.387	2.240	2.093	1.917
		SC	2.422	2.294	2.180	2.067	1.953	1.816
	18	TC	3.179	2.939	2.725	2.510	2.296	2.039
		SC	2.150	2.048	1.956	1.865	1.773	1.664
	19.4	TC	3.404	3.129	2.883	2.637	2.391	2.096
		SC	2.023	1.933	1.852	1.771	1.690	1.593
	20	TC	3.501	3.218	2.966	2.713	2.461	2.158
		SC	1.969	1.879	1.798	1.718	1.638	1.541
	22	TC	3.822	3.516	3.242	2.969	2.695	2.367
		SC	1.788	1.700	1.621	1.542	1.464	1.369
	24	TC	4.143	3.813	3.519	3.224	2.930	2.576
		SC	1.607	1.521	1.444	1.367	1.290	1.197

MODEL : MWM 015FR / M4LC 015BR

Indoor DB ° C	Indoor WB ° C	Capacity KW	Outdoor DB, ° C					
			19.4	25	30	35	40	46
26.7	13.9	TC	2.866	2.745	2.636	2.527	2.419	2.288
		SC	2.774	2.672	2.580	2.489	2.398	2.288
	15	TC	3.045	2.909	2.788	2.666	2.545	2.399
		SC	2.641	2.559	2.486	2.412	2.339	2.251
	18	TC	3.534	3.359	3.202	3.046	2.889	2.702
		SC	2.278	2.251	2.227	2.203	2.179	2.151
	19.4	TC	3.762	3.568	3.395	3.223	3.050	2.843
		SC	2.109	2.108	2.107	2.106	2.105	2.104
	20	TC	3.859	3.654	3.470	3.287	3.103	2.883
		SC	2.036	2.032	2.028	2.024	2.020	2.015
	22	TC	4.185	3.939	3.719	3.499	3.279	3.016
		SC	1.794	1.779	1.764	1.750	1.736	1.719
	24	TC	4.510	4.224	3.968	3.712	3.456	3.149
		SC	1.552	1.525	1.501	1.477	1.453	1.424

All the data above are based on 26.7°C entering DB. To obtain data for different entering DB, please use the formula below :

$$\text{Sensible capacity (@EDB)} = \text{Sensible capacity (@26.7)} + 1.23 \times \text{L/s} \times (1 - \text{BPF}) \times (\text{EDB} - 26.7) / 1000$$

Where, BPF = Bypass factor
EDB = Entering dry bulb temperature, ° C

	MWM 007FR M4LC 007BR	MWM 010FR M4LC 010BR	MWM 015FR M4LC 015BR
Bypass Factor	0.30	0.36	0.35

MODEL : MWM 020FR / M4LC 020BR

Indoor DB ° C	Indoor WB ° C	Capacity kW	Outdoor DB, ° C								
			19.4	25	30	35	40	46	50	52	54
26.7	13.9	TC	4.346	4.198	4.065	3.933	3.559	3.301	3.176	3.128	3.089
		SC	4.266	4.134	4.017	3.900	3.529	3.273	3.150	3.102	3.063
	15	TC	4.848	4.605	4.389	4.172	3.776	3.502	3.370	3.318	3.277
		SC	4.202	4.050	3.913	3.777	3.418	3.170	3.050	3.004	2.967
	18	TC	6.216	5.717	5.270	4.824	4.366	4.050	3.896	3.837	3.790
		SC	4.030	3.819	3.630	3.441	3.115	2.889	2.779	2.737	2.703
	19.4	TC	6.855	6.235	5.682	5.129	4.642	4.305	4.142	4.079	4.029
		SC	3.949	3.711	3.498	3.285	2.973	2.757	2.653	2.613	2.580
	20	TC	7.129	6.482	5.904	5.326	4.820	4.471	4.302	4.236	4.184
		SC	3.915	3.667	3.446	3.225	2.919	2.707	2.605	2.565	2.533
	22	TC	8.041	7.303	6.643	5.984	5.416	5.023	4.833	4.759	4.700
		SC	3.800	3.522	3.274	3.025	2.738	2.540	2.444	2.406	2.377
	24	TC	8.954	8.124	7.382	6.641	6.011	5.575	5.364	5.282	5.217
		SC	3.685	3.376	3.101	2.826	2.558	2.372	2.282	2.248	2.220
									HIGH AMBIENT		

MODEL : MWM 025FR / M4LC 025BR

Indoor DB ° C	Indoor WB ° C	Capacity kW	Outdoor DB, ° C								
			19.4	25	30	35	40	46	50	52	54
26.7	13.9	TC	4.741	4.640	4.551	4.462	4.324	4.104	3.999	3.959	3.926
		SC	4.388	4.362	4.339	4.316	4.183	3.970	3.868	3.829	3.798
	15	TC	5.558	5.275	5.023	4.771	4.624	4.389	4.276	4.233	4.198
		SC	4.231	4.179	4.132	4.086	3.960	3.758	3.662	3.625	3.595
	18	TC	7.786	7.006	6.310	5.614	5.441	5.164	5.032	4.981	4.940
		SC	3.804	3.679	3.568	3.457	3.351	3.181	3.099	3.067	3.043
	19.4	TC	8.825	7.814	6.910	6.007	5.822	5.526	5.384	5.330	5.286
		SC	3.604	3.446	3.305	3.164	3.067	2.911	2.836	2.807	2.785
	20	TC	9.271	8.216	7.275	6.333	6.138	5.826	5.676	5.619	5.573
		SC	3.519	3.359	3.217	3.074	2.979	2.828	2.755	2.727	2.705
	22	TC	10.756	9.558	8.488	7.419	7.190	6.825	6.649	6.582	6.528
		SC	3.233	3.069	2.921	2.774	2.688	2.552	2.486	2.461	2.441
	24	TC	12.242	10.900	9.702	8.504	8.242	7.823	7.622	7.545	7.484
		SC	2.948	2.778	2.626	2.474	2.398	2.276	2.217	2.195	2.177
									HIGH AMBIENT		

MODEL : MWM 030FR / M4LC 030CR

Indoor DB ° C	Indoor WB ° C	Capacity kW	Outdoor DB, ° C								
			19.4	25	30	35	40	46	50	52	54
26.7	13.9	TC	7.244	6.990	6.763	6.536	6.223	5.895	5.641	5.503	5.357
		SC	7.244	6.990	6.763	6.536	6.223	5.895	5.641	5.503	5.357
	15	TC	7.883	7.541	7.235	6.929	6.597	6.250	5.980	5.834	5.679
		SC	8.103	7.651	7.248	6.844	6.516	6.174	5.907	5.762	5.610
	18	TC	9.626	9.043	8.522	8.002	7.618	7.218	6.906	6.737	6.558
		SC	10.444	9.454	8.569	7.685	7.316	6.932	6.632	6.470	6.299
	19.4	TC	10.440	9.744	9.123	8.502	8.095	7.669	7.338	7.158	6.969
		SC	11.537	10.295	9.186	8.077	7.690	7.286	6.971	6.800	6.620
	20	TC	10.788	10.052	9.394	8.736	8.317	7.880	7.540	7.355	7.160
		SC	12.005	10.660	9.459	8.257	7.861	7.448	7.126	6.952	6.768
	22	TC	11.950	11.076	10.296	9.515	9.059	8.583	8.212	8.011	7.799
		SC	13.566	11.876	10.367	8.858	8.433	7.990	7.645	7.457	7.260
	24	TC	13.112	12.101	11.197	10.294	9.800	9.285	8.884	8.666	8.437
		SC	15.127	13.092	11.275	9.458	9.004	8.531	8.163	7.963	7.752
									HIGH AMBIENT		

All the data above are based on 26.7°C entering DB. To obtain data for different entering DB, please use the formula below :

$$\text{Sensible capacity (EDB)} = \text{Sensible capacity (26.7)} + 1.23 \times \text{L/s} \times (1 - \text{BPF}) \times (\text{EDB} - 26.7) / 1000$$

Where, BPF = Bypass factor

EDB = Entering dry bulb temperature, ° C

	MWM 020FR M4LC 020BR	MWM 025FR M4LC 025BR	MWM 030FR M4LC 030CR
Bypass factor	0.37	0.40	0.37

**R407C MODELS
(HEATPUMP – HEATING MODE)**

MODEL : MWM 007FR / M4LC 007BR

(HEATING MODE)

		Indoor DB°C						FROST REGION
Outdoor WB°C	kW	15.0	17.0	19.0	21.0	24.0	26.7	
-9.0	TC	1.222	1.204	1.186	1.168	1.163	1.158	
	SC	1.222	1.204	1.186	1.168	1.163	1.158	
-5.0	TC	1.447	1.434	1.421	1.408	1.389	1.371	
	SC	1.447	1.434	1.421	1.408	1.389	1.371	
6.0	TC	2.066	2.100	2.134	2.169	2.058	1.958	
	SC	2.066	2.100	2.134	2.169	2.058	1.958	
12.0	TC	2.403	2.382	2.360	2.339	2.307	2.278	
	SC	2.403	2.382	2.360	2.339	2.307	2.278	
15.0	TC	2.572	2.549	2.526	2.503	2.468	2.438	
	SC	2.572	2.549	2.526	2.503	2.468	2.438	
18.3	TC	2.757	2.733	2.708	2.683	2.647	2.613	
	SC	2.757	2.733	2.708	2.683	2.647	2.613	

MODEL : MWM 010FR / M4LC 010BR

(HEATING MODE)

		Indoor DB°C						FROST REGION
Outdoor WB°C	kW	15.0	17.0	19.0	21.0	24.0	26.7	
-9.0	TC	1.500	1.486	1.472	1.457	1.438	1.422	
	SC	1.500	1.486	1.472	1.457	1.438	1.422	
-5.0	TC	1.733	1.717	1.702	1.686	1.663	1.642	
	SC	1.733	1.717	1.702	1.686	1.663	1.642	
6.0	TC	2.372	2.509	2.646	2.783	2.501	2.248	
	SC	2.372	2.509	2.646	2.783	2.501	2.248	
12.0	TC	2.720	2.696	2.672	2.647	2.611	2.578	
	SC	2.720	2.696	2.672	2.647	2.611	2.578	
15.0	TC	2.894	2.868	2.843	2.817	2.778	2.743	
	SC	2.894	2.868	2.843	2.817	2.778	2.743	
18.3	TC	3.086	3.058	3.031	3.003	2.962	2.925	
	SC	3.086	3.058	3.031	3.003	2.962	2.925	

MODEL : MWM 015FR / M4LC 015BR

(HEATING MODE)

		Indoor DB°C						FROST REGION
Outdoor WB°C	kW	15.0	17.0	19.0	21.0	24.0	26.7	
-9.0	TC	1.891	1.856	1.822	1.788	1.790	1.792	
	SC	1.891	1.856	1.822	1.788	1.790	1.792	
-5.0	TC	2.276	2.256	2.235	2.215	2.184	2.157	
	SC	2.276	2.256	2.235	2.215	2.184	2.157	
6.0	TC	3.336	3.446	3.556	3.665	3.400	3.162	
	SC	3.336	3.446	3.556	3.665	3.400	3.162	
12.0	TC	3.914	3.879	3.844	3.810	3.757	3.710	
	SC	3.914	3.879	3.844	3.810	3.757	3.710	
15.0	TC	4.203	4.166	4.128	4.091	4.035	3.984	
	SC	4.203	4.166	4.128	4.091	4.035	3.984	
18.3	TC	4.521	4.481	4.441	4.400	4.340	4.286	
	SC	4.521	4.481	4.441	4.400	4.340	4.286	

MODEL : MWM 020FR / M4LC 020BR**(HEATING MODE)**

Outdoor WB°C	kW	Indoor DB°C						
		15.0	17.0	19.0	21.0	24.0	26.7	
-9.0	TC	3.502	3.469	3.436	3.402	3.358	3.318	FROST REGION
	SC	3.502	3.469	3.436	3.402	3.358	3.318	
-5.0	TC	4.042	4.005	3.969	3.933	3.879	3.830	
	SC	4.042	4.005	3.969	3.933	3.879	3.830	
6.0	TC	5.526	5.540	5.554	5.569	5.394	5.237	
	SC	5.526	5.540	5.554	5.569	5.394	5.237	
12.0	TC	6.335	6.279	6.222	6.166	6.081	6.004	
	SC	6.335	6.279	6.222	6.166	6.081	6.004	
15.0	TC	6.740	6.680	6.620	6.559	6.469	6.388	
	SC	6.740	6.680	6.620	6.559	6.469	6.388	
18.3	TC	7.185	7.121	7.057	6.993	6.897	6.810	
	SC	7.185	7.121	7.057	6.993	6.897	6.810	

MODEL : MWM 025FR / M4LC 025BR**(HEATING MODE)**

Outdoor WB°C	kW	Indoor DB°C						
		15.0	17.0	19.0	21.0	24.0	26.7	
-9.0	TC	3.931	3.890	3.850	3.810	3.765	3.724	FROST REGION
	SC	3.931	3.890	3.850	3.810	3.765	3.724	
-5.0	TC	4.554	4.513	4.472	4.431	4.370	4.315	
	SC	4.554	4.513	4.472	4.431	4.370	4.315	
6.0	TC	6.268	6.523	6.779	7.034	6.458	5.940	
	SC	6.268	6.523	6.779	7.034	6.458	5.940	
12.0	TC	7.202	7.138	7.074	7.010	6.913	6.826	
	SC	7.202	7.138	7.074	7.010	6.913	6.826	
15.0	TC	7.670	7.601	7.533	7.464	7.362	7.270	
	SC	7.670	7.601	7.533	7.464	7.362	7.270	
18.3	TC	8.184	8.111	8.038	7.965	7.856	7.757	
	SC	8.184	8.111	8.038	7.965	7.856	7.757	

MODEL : MWM 030FR / M4LC 030CR**(HEATING MODE)**

Outdoor WB°C	kW	Indoor DB°C						
		15.0	17.0	19.0	21.0	24.0	26.7	
-9.0	TC	5.513	5.460	5.407	5.355	5.285	5.223	FROST REGION
	SC	5.513	5.460	5.407	5.355	5.285	5.223	
-5.0	TC	6.365	6.308	6.251	6.194	6.108	6.031	
	SC	6.365	6.308	6.251	6.194	6.108	6.031	
6.0	TC	8.709	8.737	8.765	8.792	8.509	8.254	
	SC	8.709	8.737	8.765	8.792	8.509	8.254	
12.0	TC	9.987	9.898	9.809	9.720	9.586	9.466	
	SC	9.987	9.898	9.809	9.720	9.586	9.466	
15.0	TC	10.626	10.531	10.437	10.342	10.200	10.072	
	SC	10.626	10.531	10.437	10.342	10.200	10.072	
18.3	TC	11.329	11.228	11.127	11.026	10.875	10.739	
	SC	11.329	11.228	11.127	11.026	10.875	10.739	

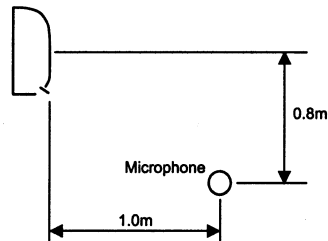
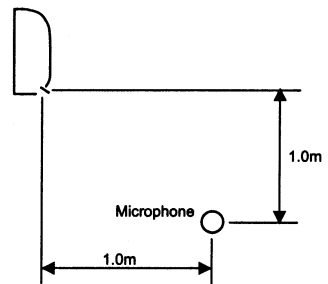
Noise Level

Sound Pressure Level (Measured In Anechoic Room)

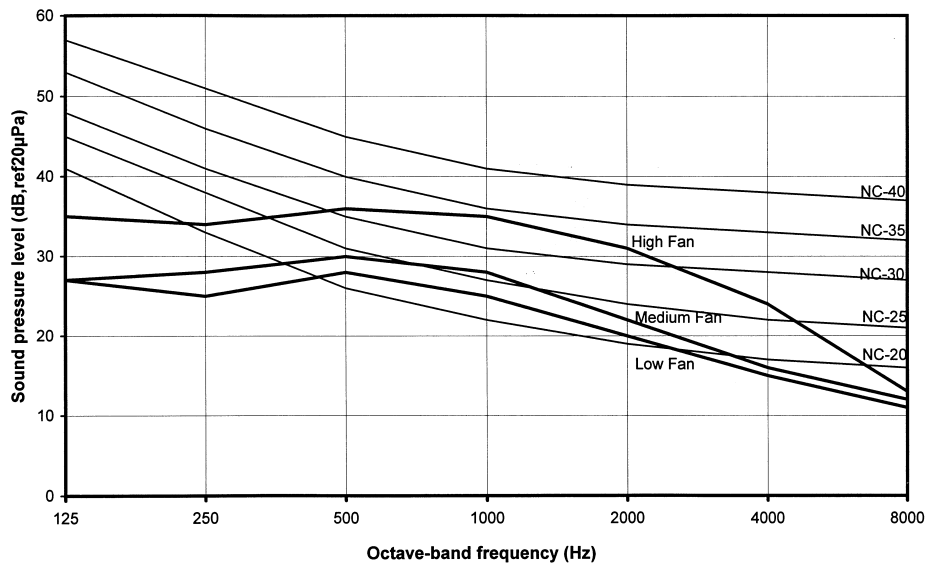
Wall Mounted Fan Coil Unit
240V/50Hz/1PH

Model	Speed	1/1 Octave Sound pressure level (dB, ref 20μPa)							Overall A (dBA)	Noise Criteria
		125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz		
MWM007F/FR MWMV010FR	High	35	34	36	35	31	24	13	38	33
	Medium	27	28	30	28	22	16	12	32	27
	Low	27	25	28	25	20	15	11	29	23
MWM010F/FR	High	35	34	36	35	31	24	13	38	33
	Medium	32	29	32	29	25	18	12	34	28
	Low	28	26	29	26	21	16	12	30	24
MWM015F/FR	High	35	34	36	35	31	24	13	38	33
	Medium	33	31	33	30	25	17	12	35	29
	Low	31	28	29	27	22	15	11	31	25
MWM020F/FR	High	39	42	43	40	38	31	19	45	39
	Medium	37	40	40	37	35	28	16	42	36
	Low	34	37	37	34	31	23	14	39	33
MWM025F/FR	High	41	46	44	42	39	33	22	47	41
	Medium	38	43	42	40	37	29	17	44	39
	Low	36	42	39	36	33	26	14	42	35
MWM031F MWM030FR	High	42	46	45	44	41	35	28	49	43
	Medium	40	45	44	43	38	33	27	47	42
	Low	37	43	43	40	35	30	26	45	39

Microphone position : MWM0-F/FR - 1 m in front of the unit and 0.8 m below the vertical centre line of the unit. (JIS C 9612)
MWM0311/301R - 1 m in front and 1 m below the air discharge opening of the unit (JIS B 8615)

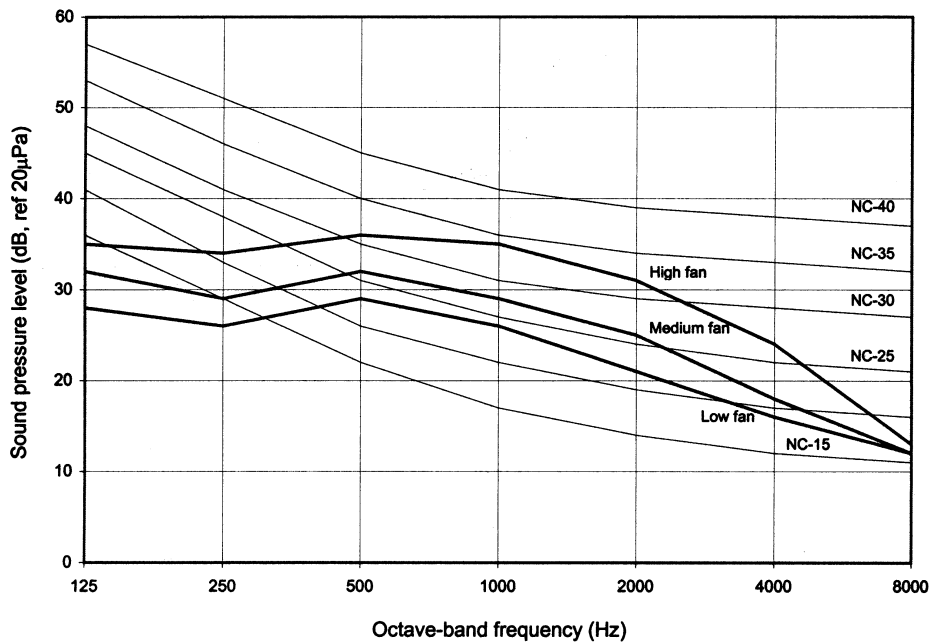
Model	Measuring location
MWM007F/FR MWM010F/FR MWM015F/FR MWM020F/FR MWM025F/FR MWMV010FR	 <p>Standard : JIS C 9612</p>
MWM031F/030FR	 <p>Standard : JIS B 8615</p>

MWM007F/FR NC CURVES (240V, 50Hz)



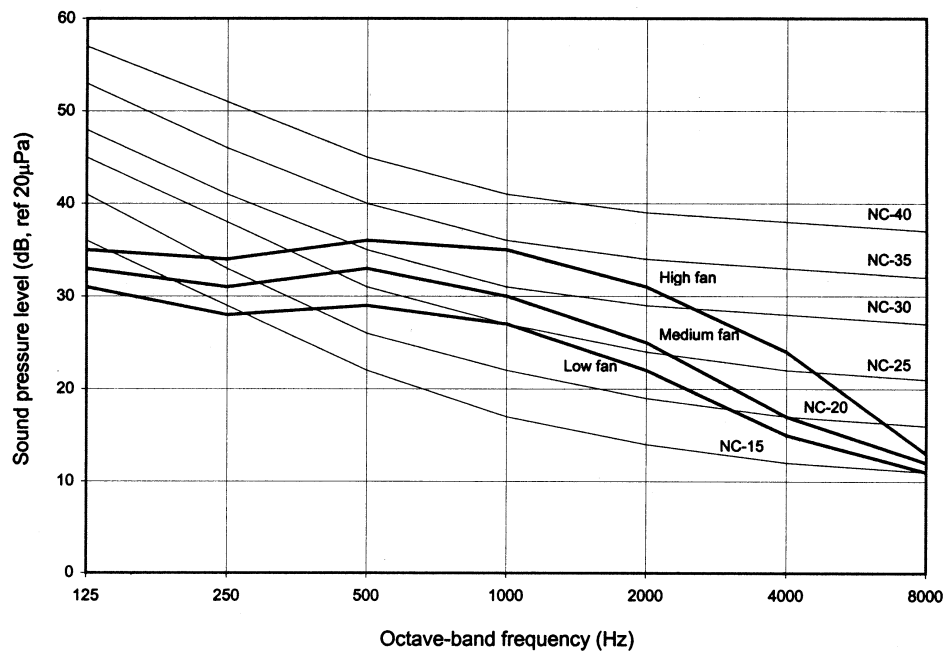
Measured in anechoic room at 1m in front and 0.8m below the vertical centre line of the unit

MWM010F/FR NC CURVES (240V, 50Hz)



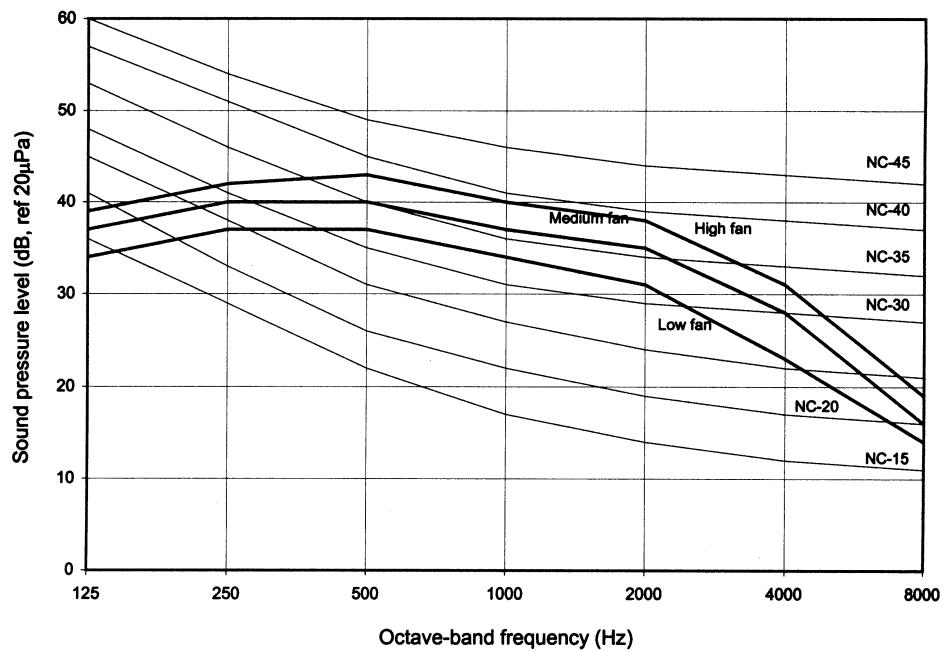
Measured in anechoic room at 1m in front and 0.8m below the vertical centre line of the unit

MWM015F/FR NC CURVES (240V, 50Hz)



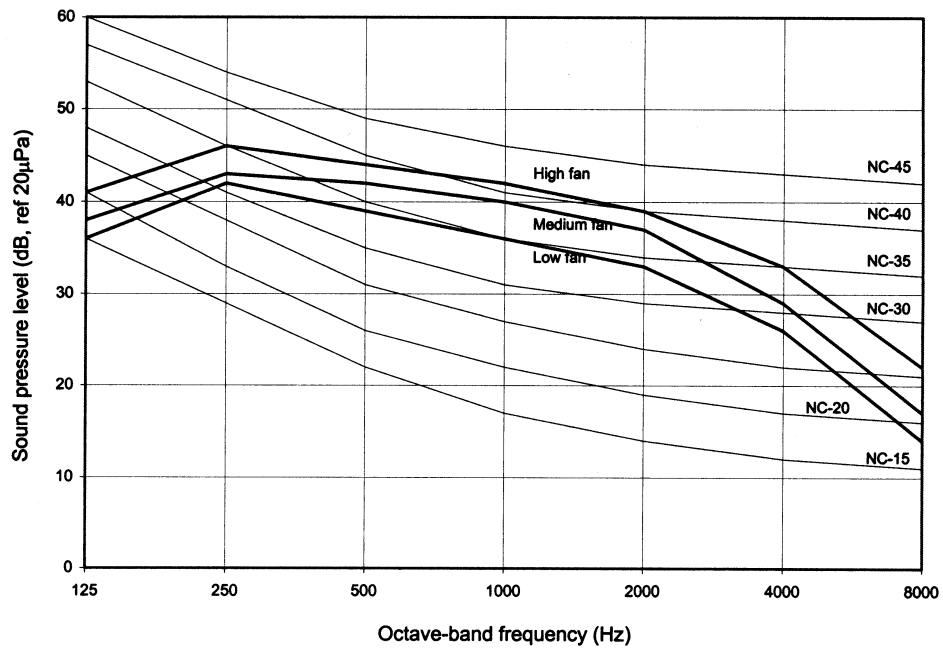
Measured in anechoic room at 1m in front and 0.8m below the vertical centre line of the unit

MWM020F/FR NC CURVES (240V, 50Hz)



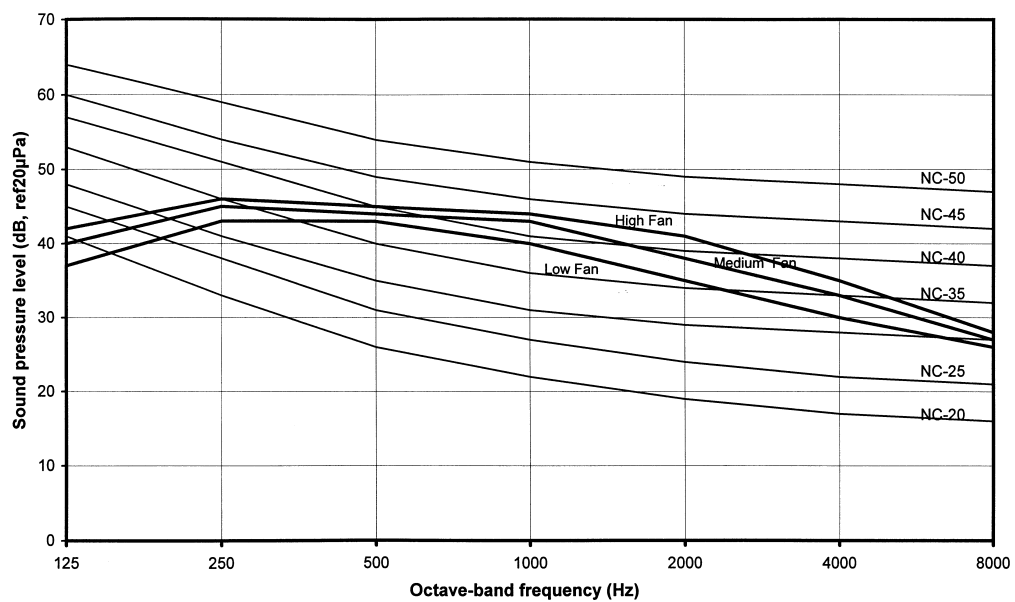
Measured in anechoic room at 1m in front and 0.8m below the vertical centre line of the unit

MWM025F/FR NC CURVES (240V, 50Hz)



Measured in anechoic room at 1m in front and 0.8m below the vertical centre line of the unit

MWM031F/ 030FR NC CURVES (240V, 50Hz)



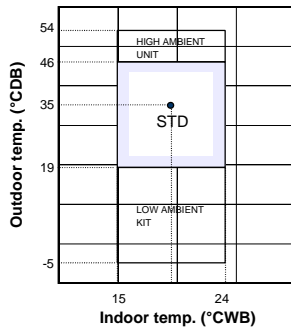
Measured in anechoic room at 1m in front and 1m below the vertical centre line of the unit

Operating Range

Ensure the operating temperature is in allowable range.

Cooling only

Cooling

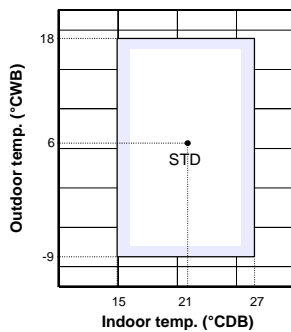


Caution :

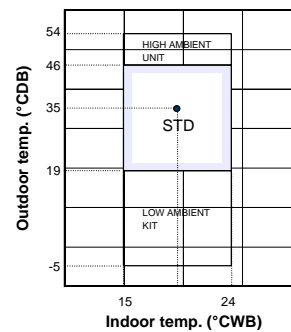
The use of your air conditioner outside the range of working temperature and humidity can result in serious failure.

Heat pump

Heating



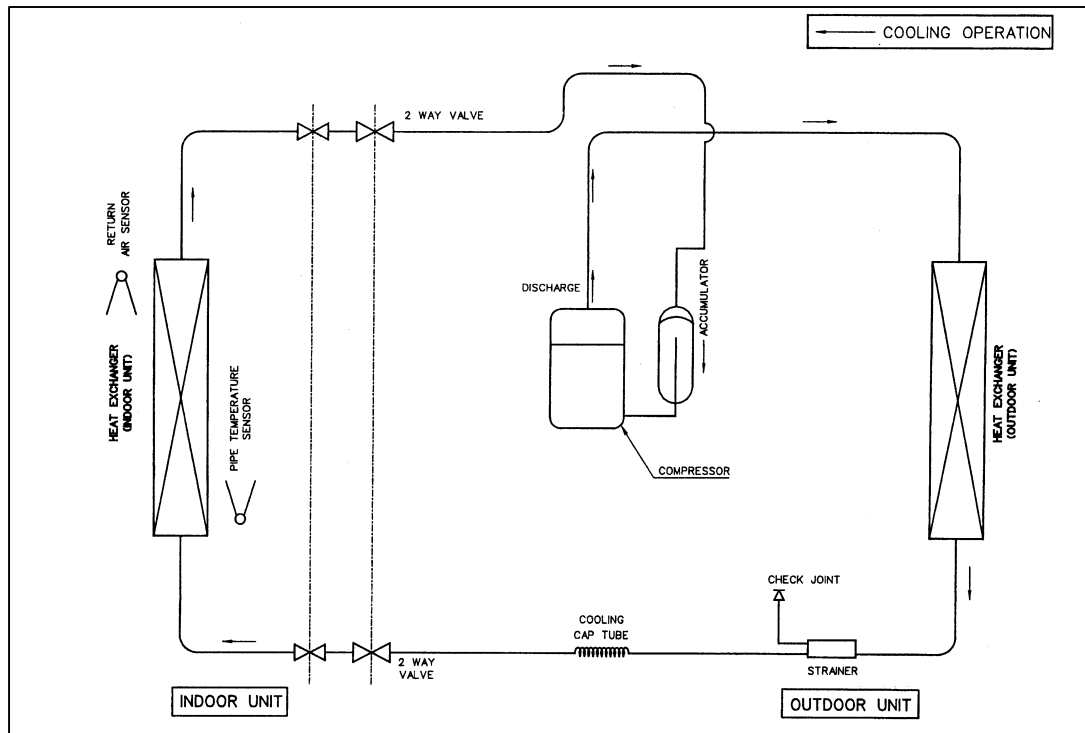
Cooling



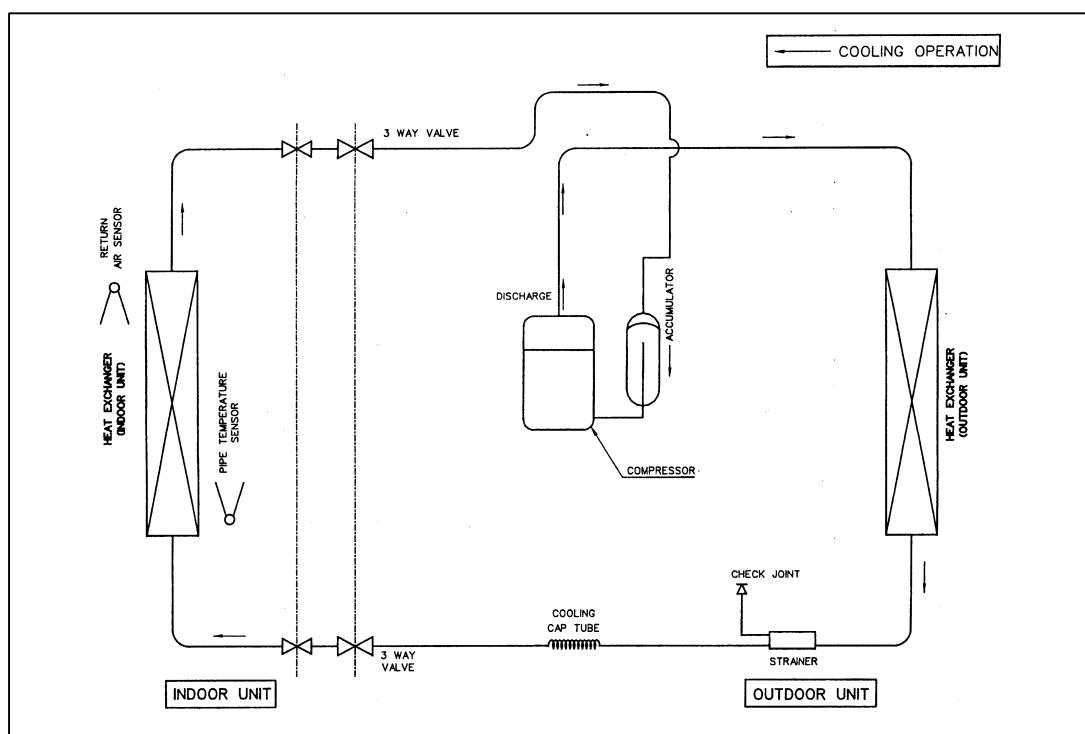
Refrigeration Cycle Diagram

Cooling Only Models

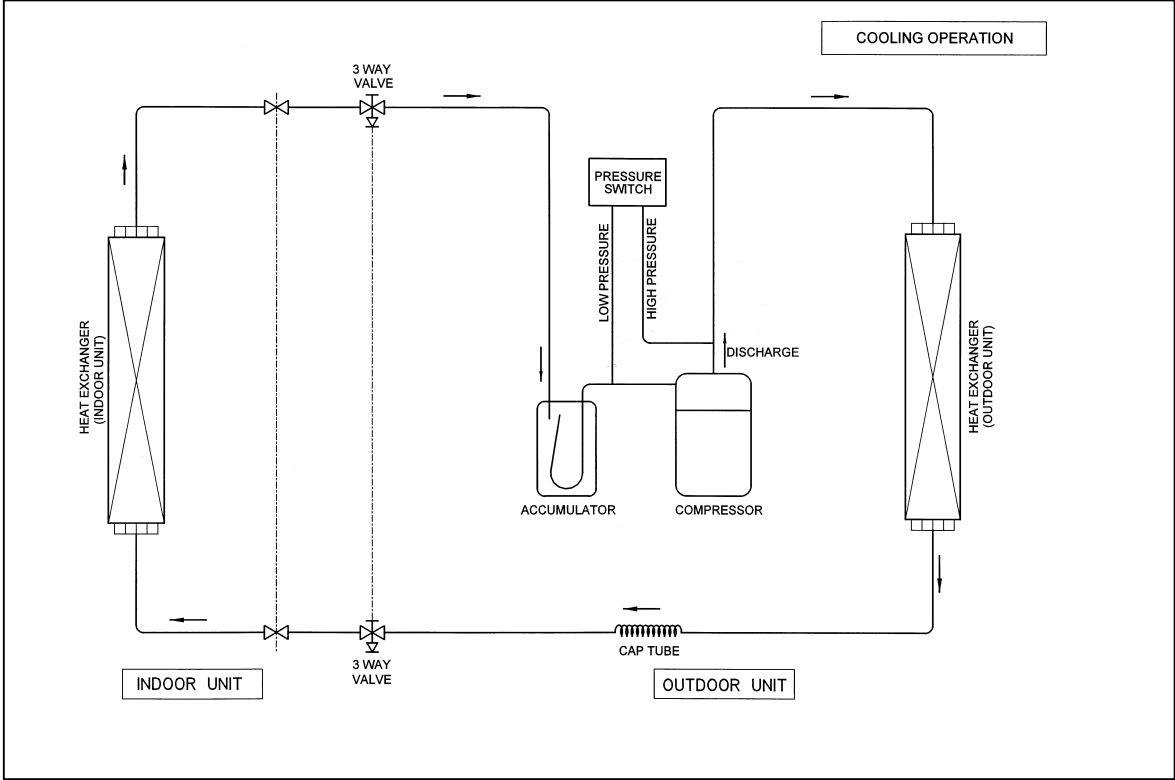
Model : MLC/M4LC 007B / 010B / 015B / 020B
MLC 007C / 010C / 015C



Model : MLC/M4LC 025B, MLC 031B

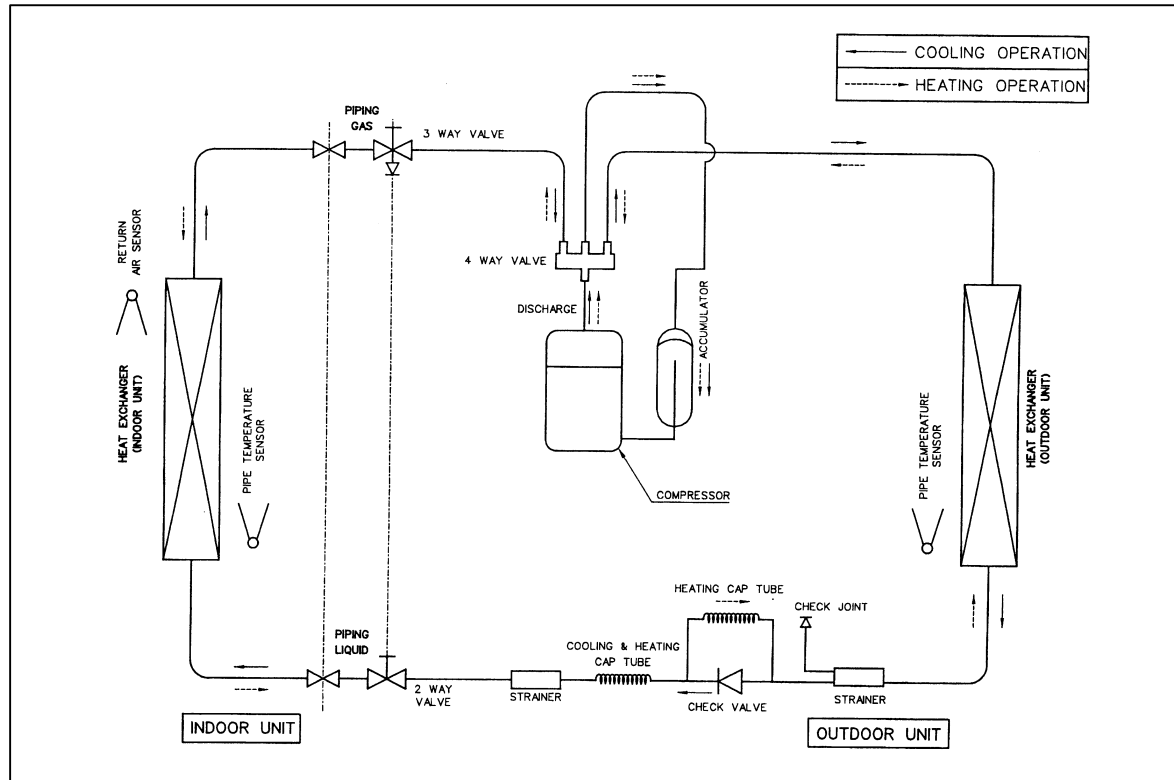


Model : MLC / M4LC 031C

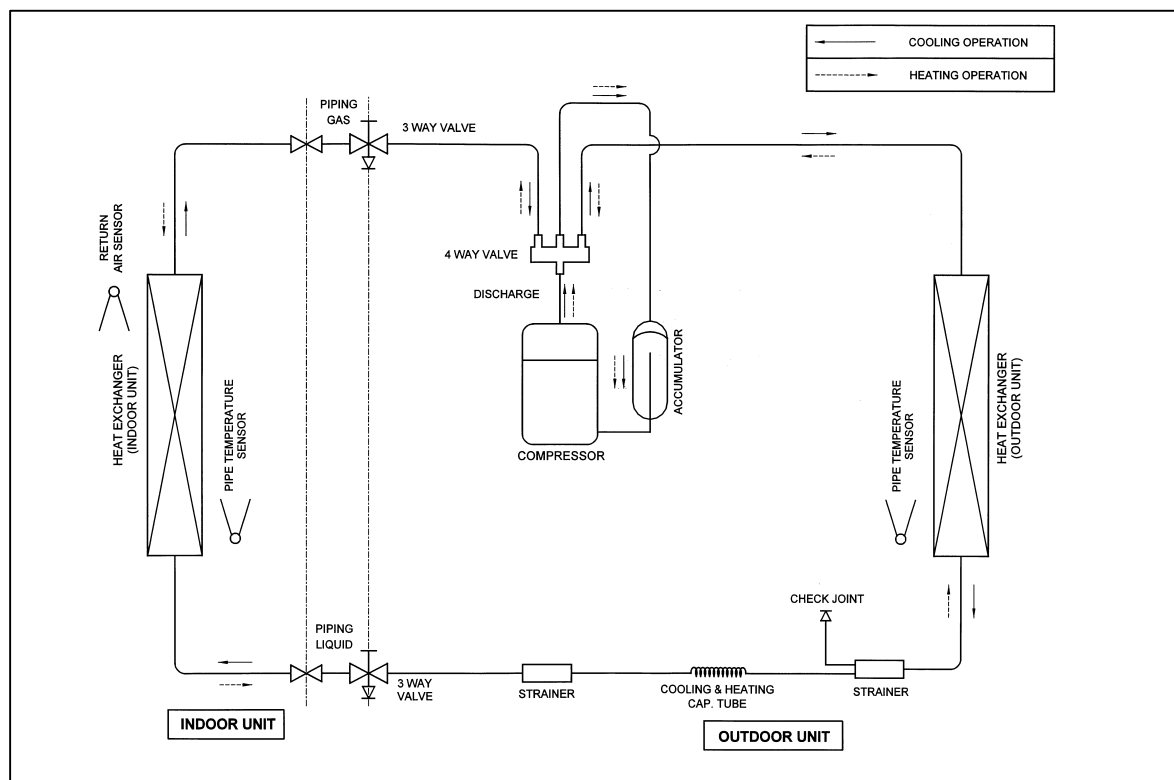


Heatpump Models

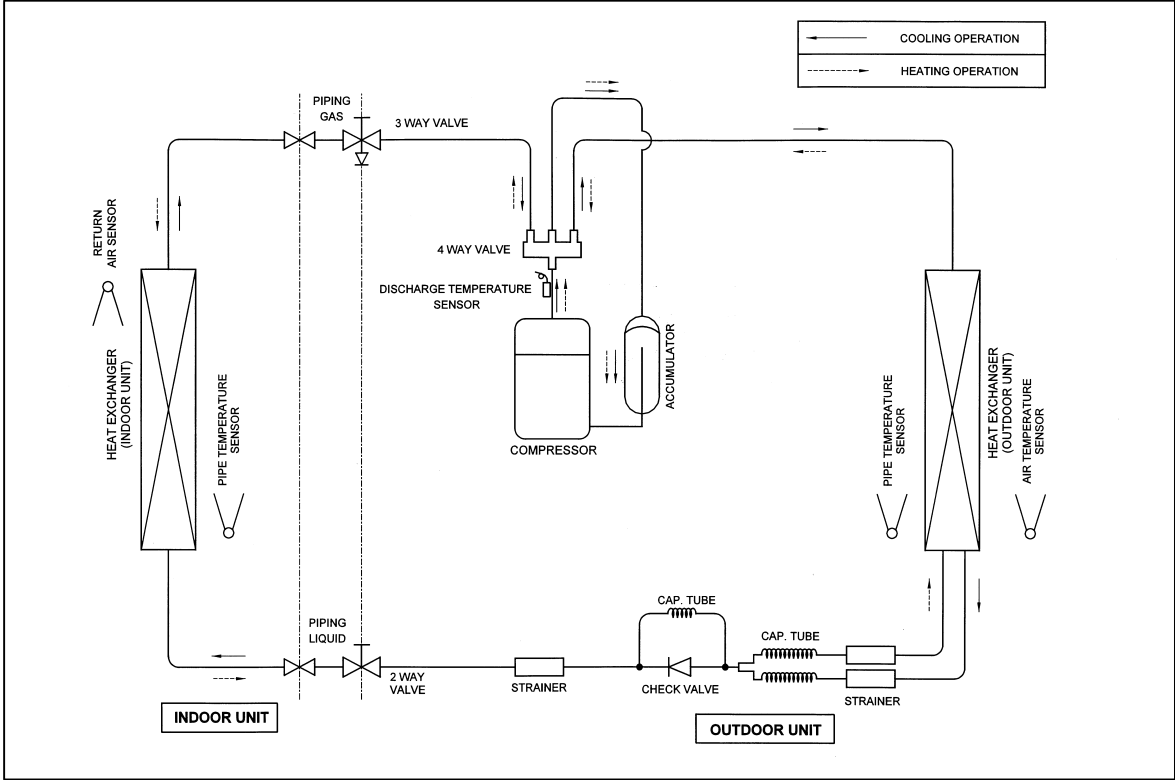
Model : MLC / M4LC 007BR / 010BR, MLC 010CR



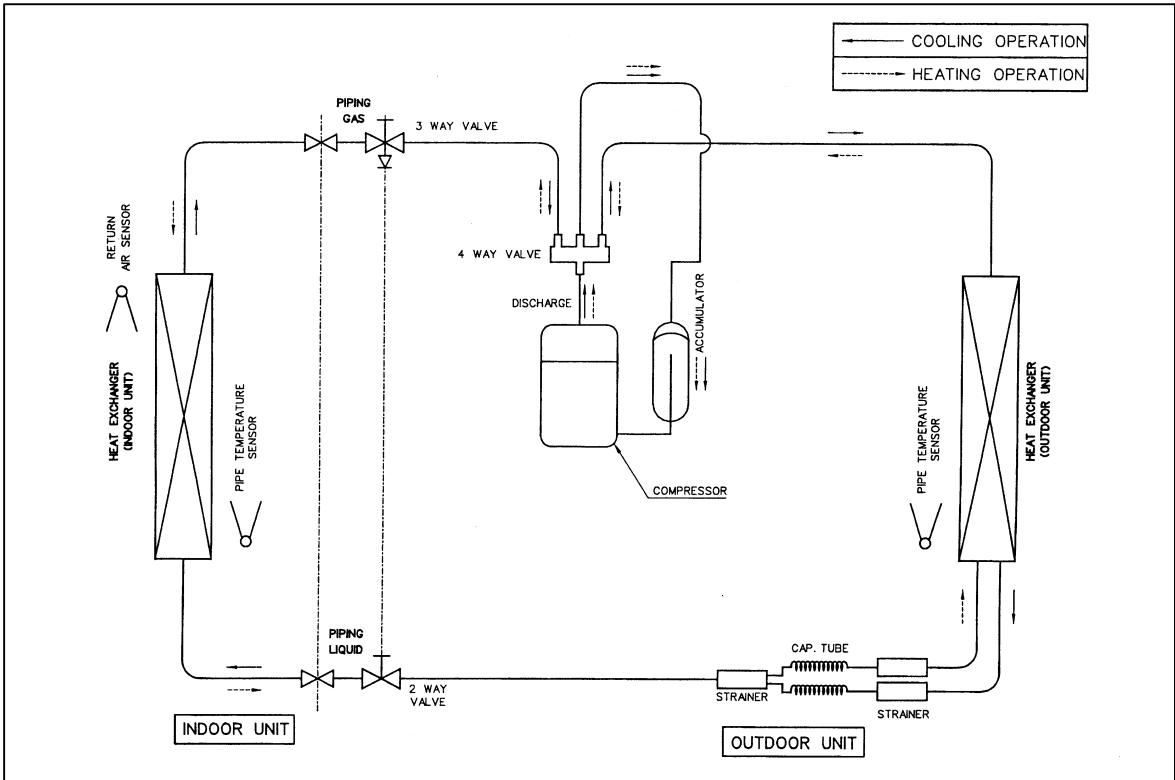
Model : MLC 007CR



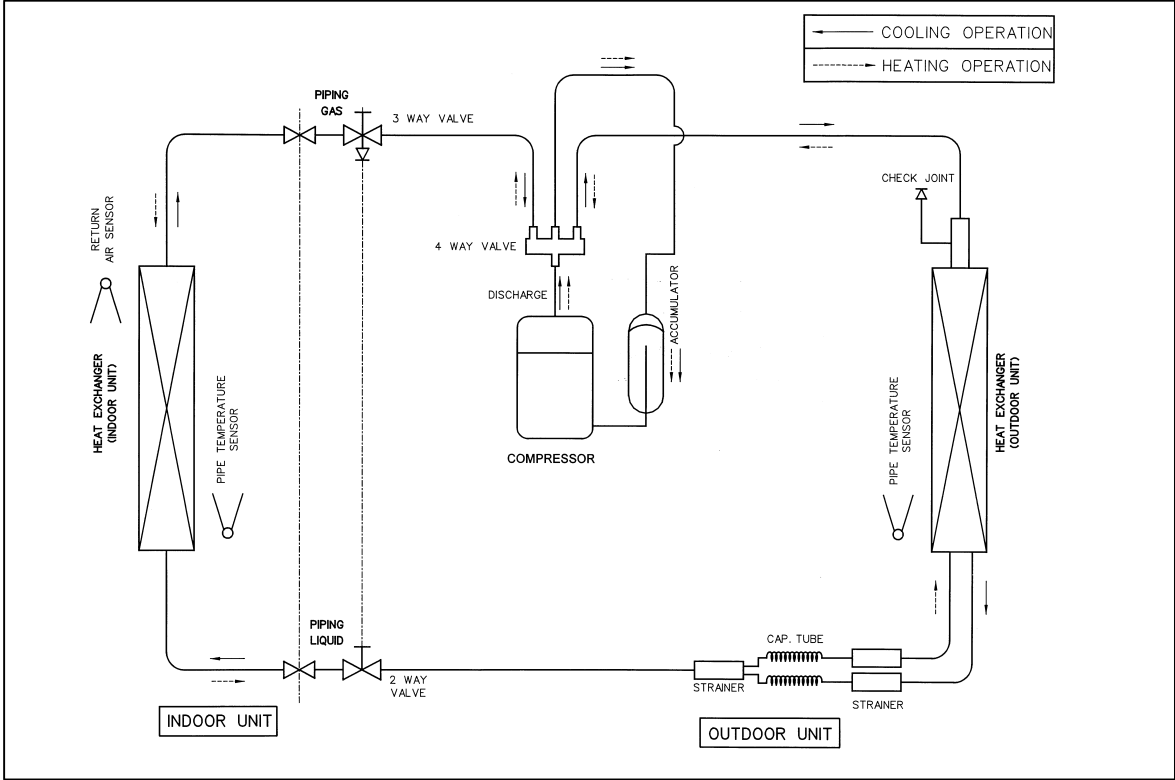
Model : MLCV 010BR



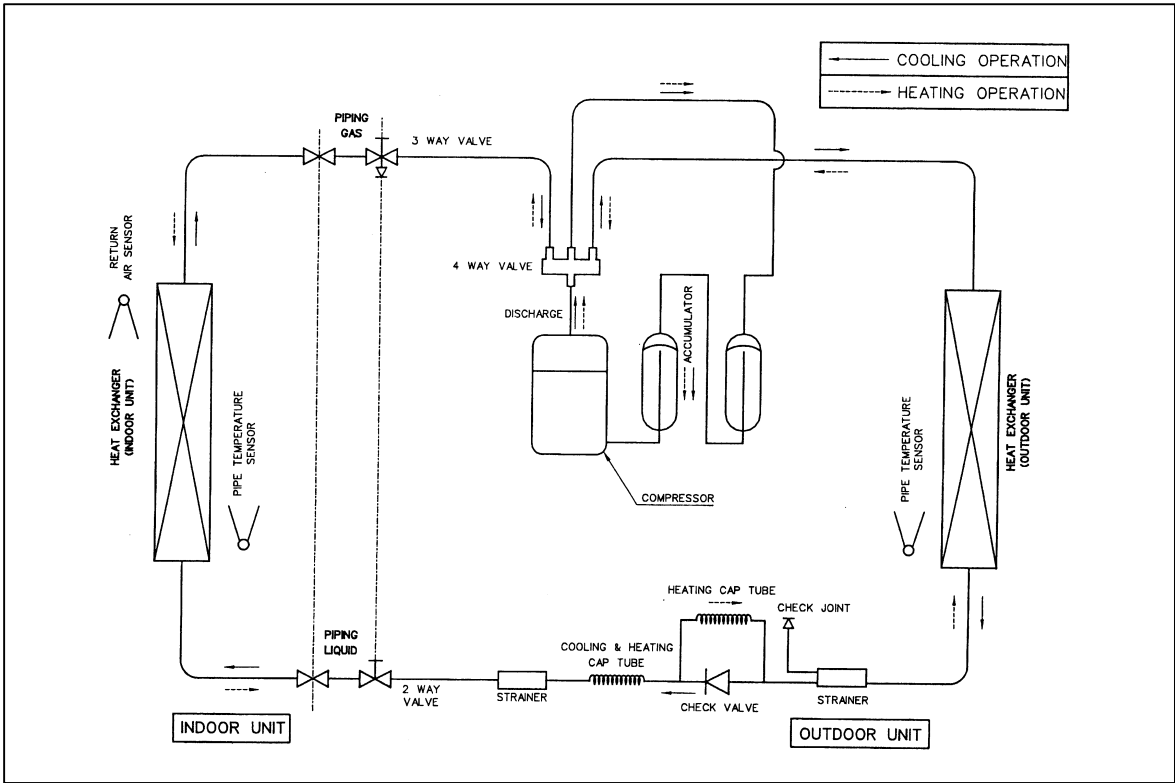
Model : MLC / M4LC 015BR



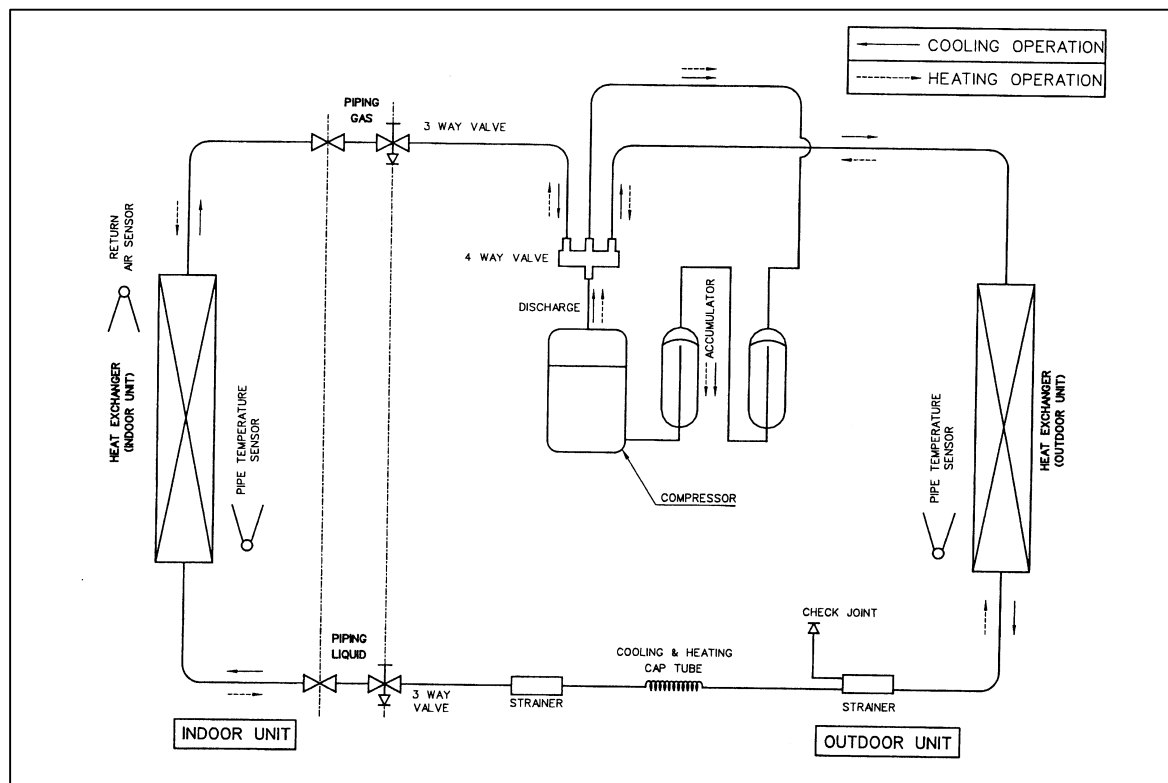
Model : MLC 015CR



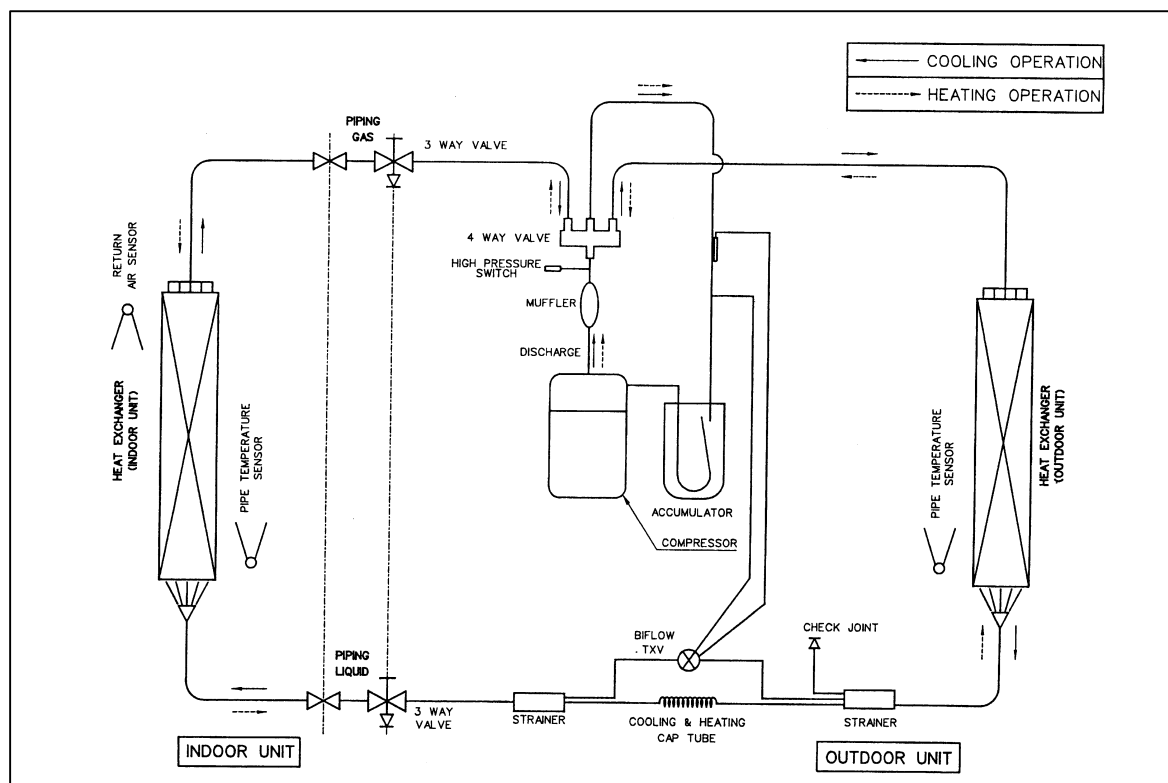
Model : MLC /M4LC 020BR



Model : MLC / M4LC 025BR, MLC 030BR



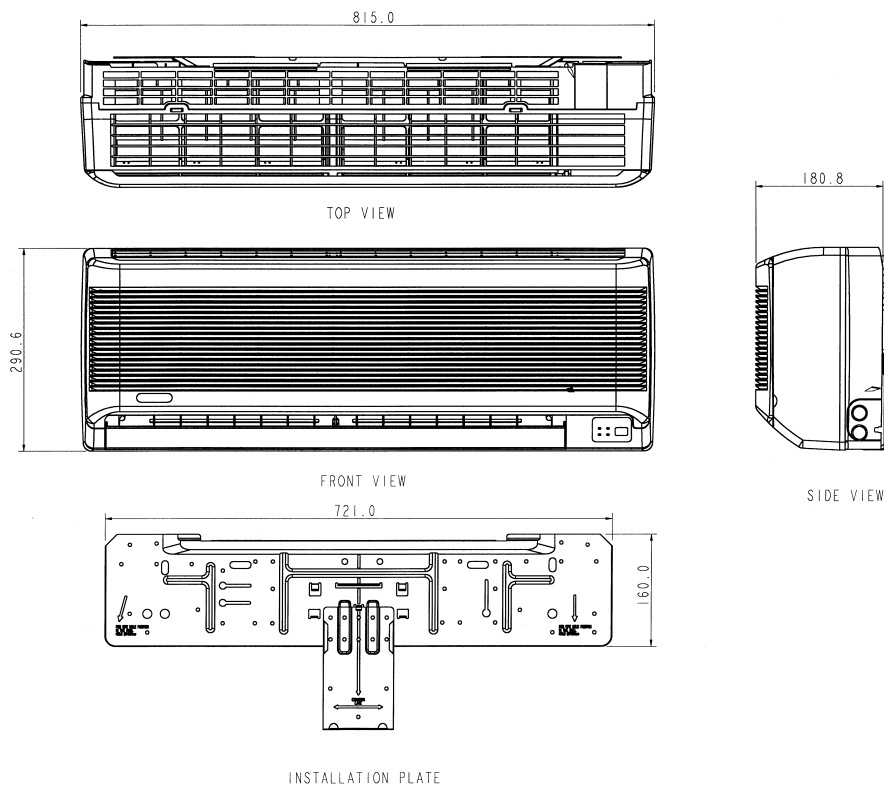
Model : MLC / M4LC 030CR



Outlines And Dimensions

Indoor Unit

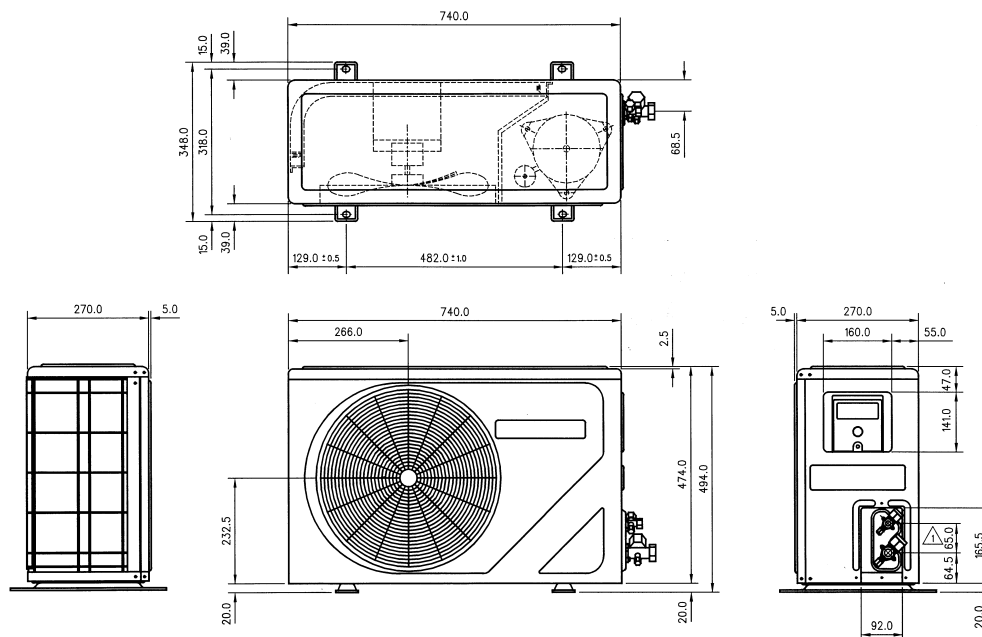
Model: MWM 007F / 007FR / 010F / 010FR / 015F / 015FR, MWMV 010FR



Note : Dimension in mm

Outdoor Unit

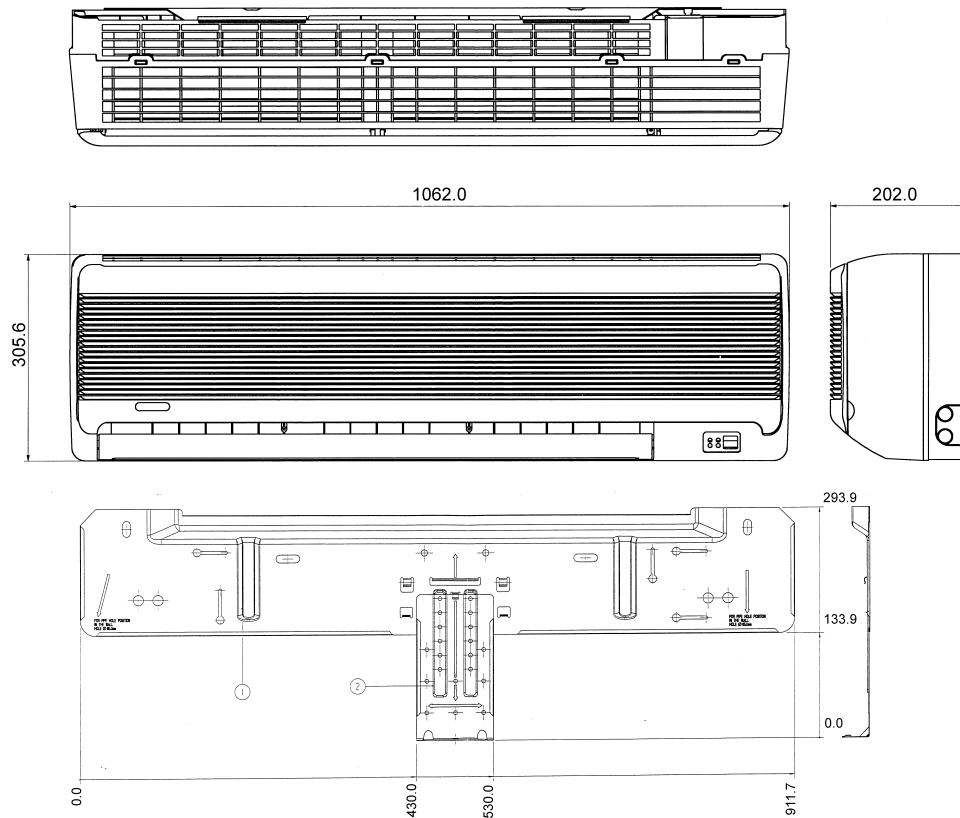
Model : MLC 007B / 007BR / 010B / 010BR / 015B / 015BR
M4LC 007B / 007BR / 010B / 010BR / 015B / 015BR, MLCV 010BR



Note : Dimension in mm

Indoor Unit

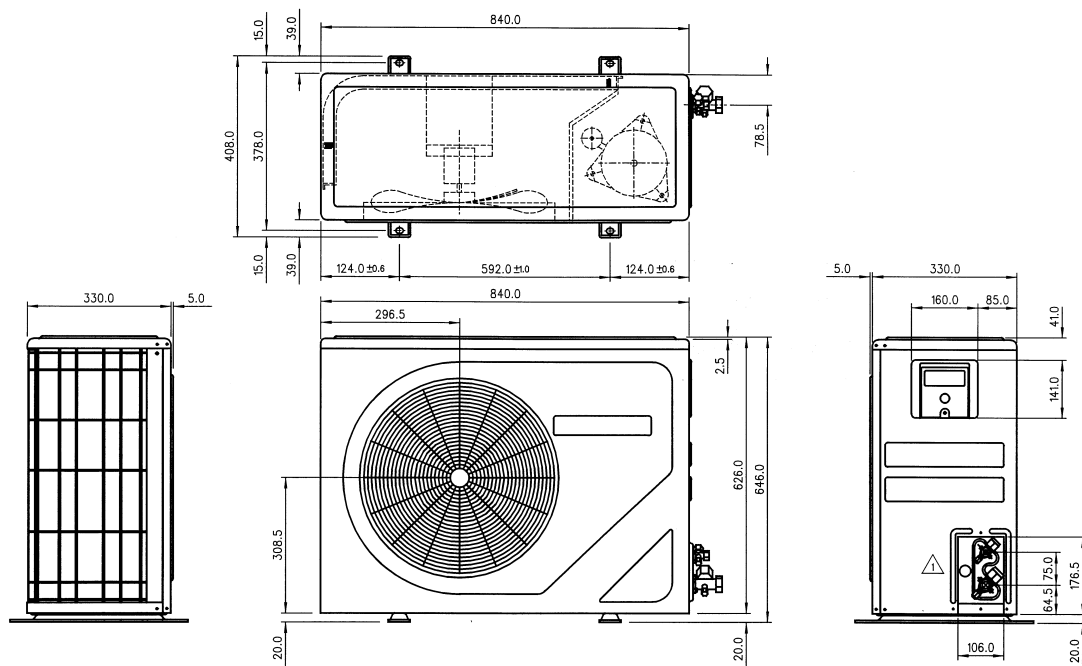
Model : MWM 020F / 020FR / 025F / 025FR



Note : Dimension in mm

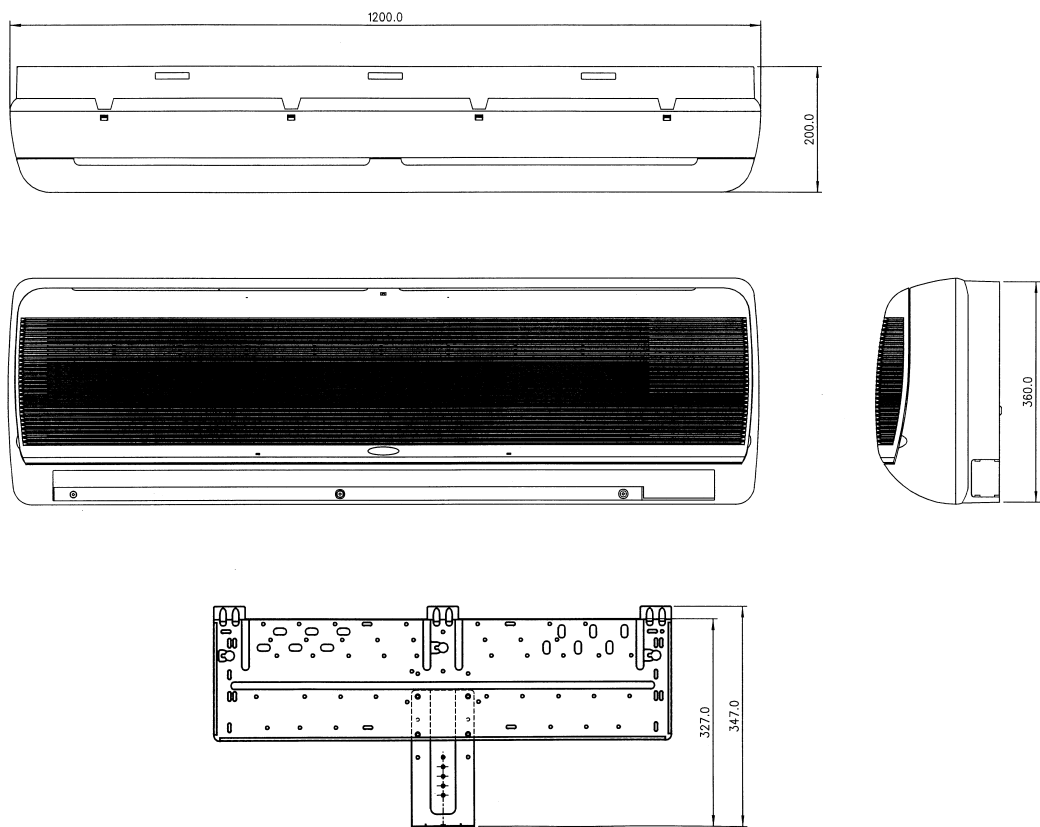
Outdoor Unit

Model : MLC 020B / 020BR / 025B / 025BR / 031B / 030BR
M4LC 020B / 020BR / 025B / 025BR

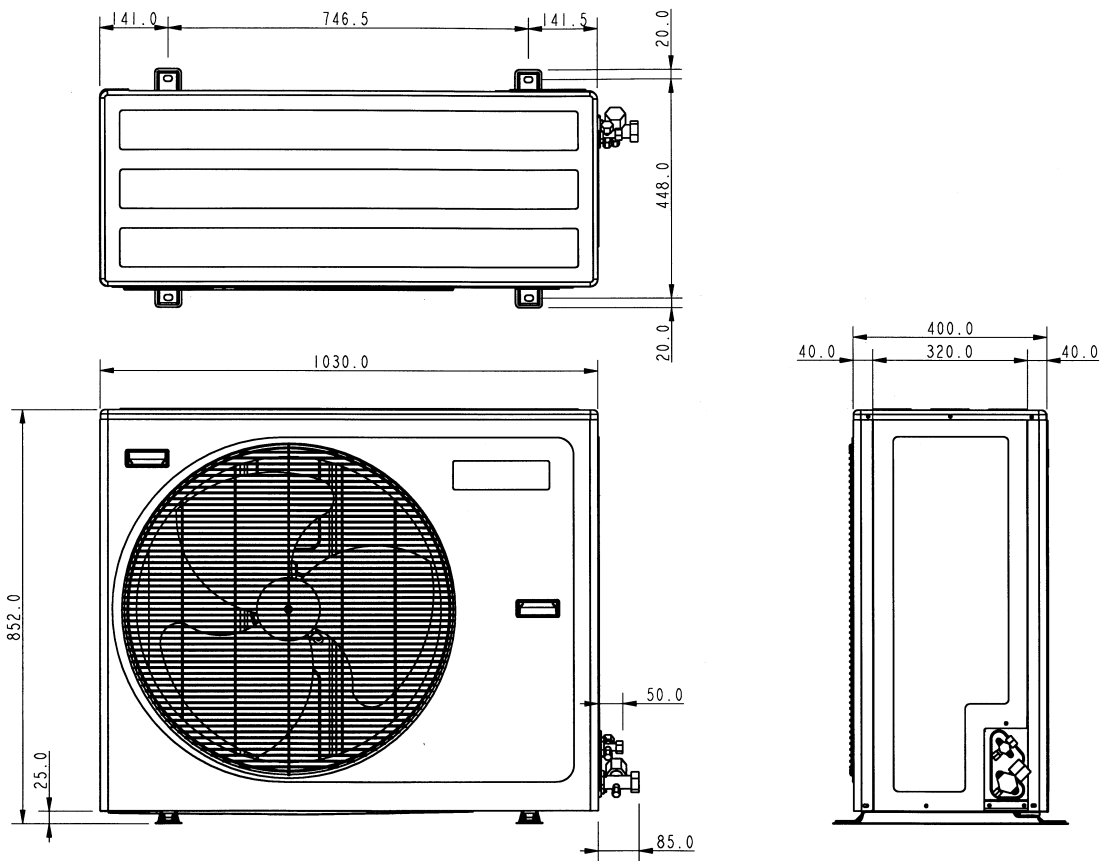


Note : Dimension in mm

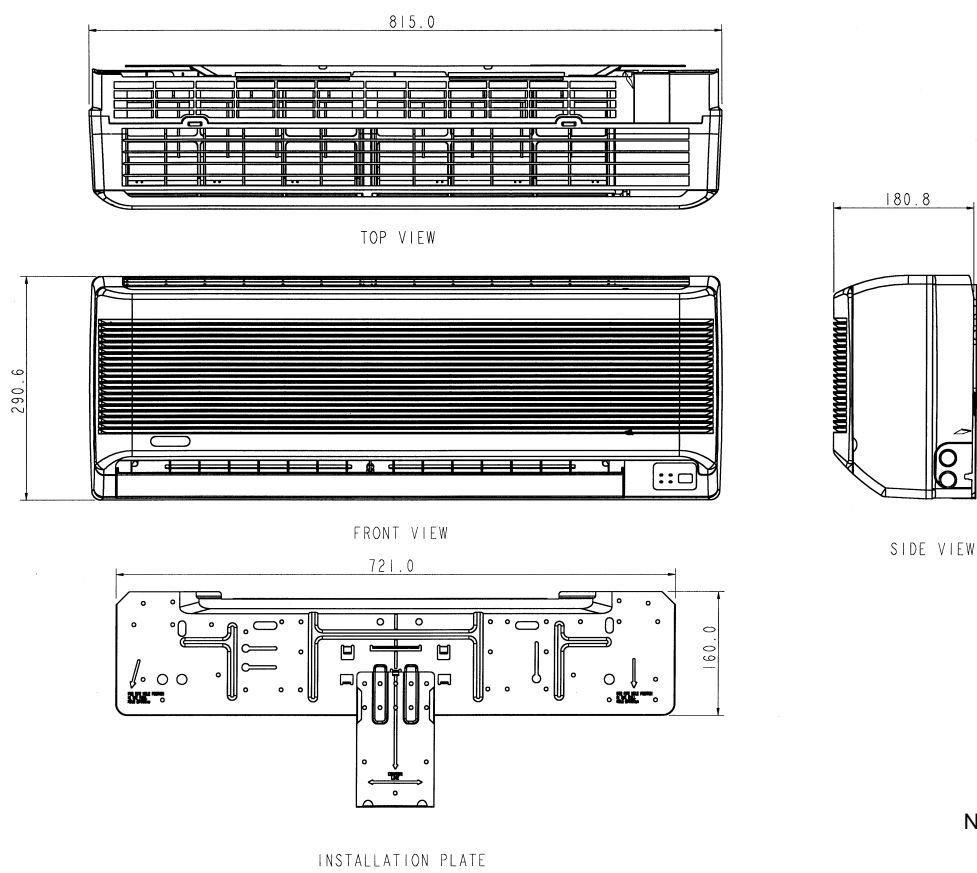
Indoor Unit
Model : MWM 031F/030FR



Outdoor Unit
Model : MLC 031C, MLC 030CR
M4LC 031C, M4LC 030CR

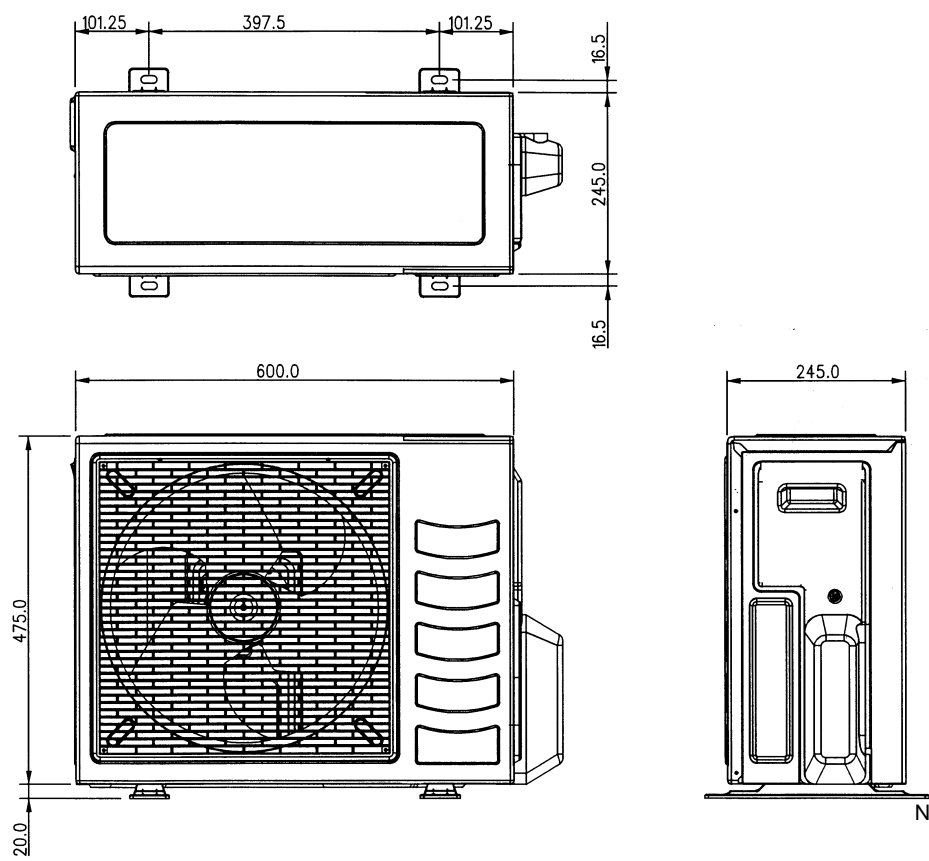


Indoor Unit
Model: MWM 007F / 007FR



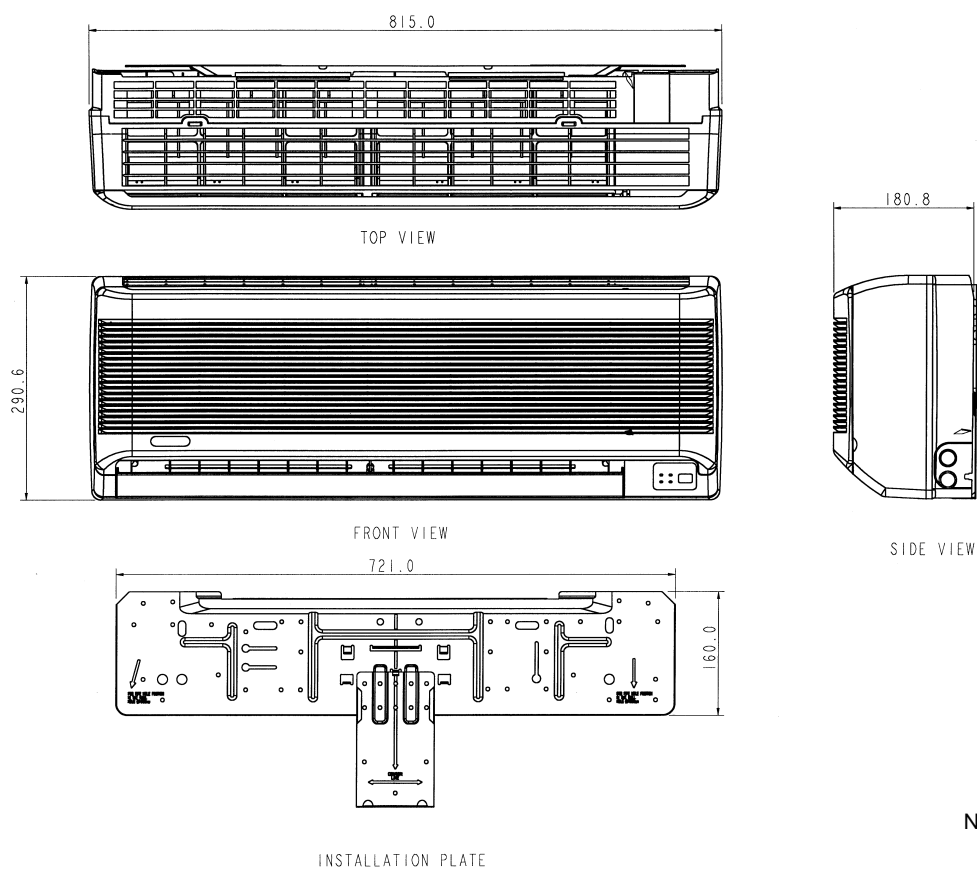
Note : Dimension in mm

Outdoor Unit
Model : MLC 007C / 007CR

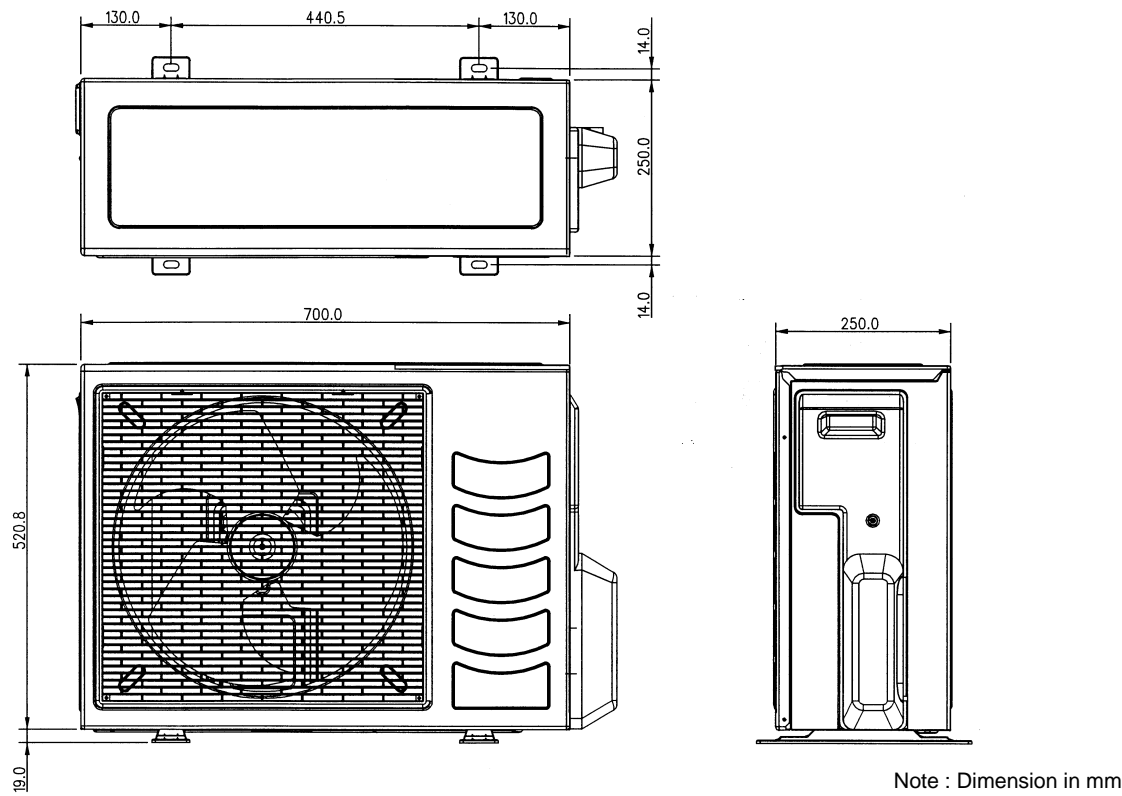


Note : Dimension in mm

Indoor Unit
Model: MWM 010F / 010FR / 015F / 015FR



Outdoor Unit
Model : MLC 010C / 010CR / 015C / 015CR

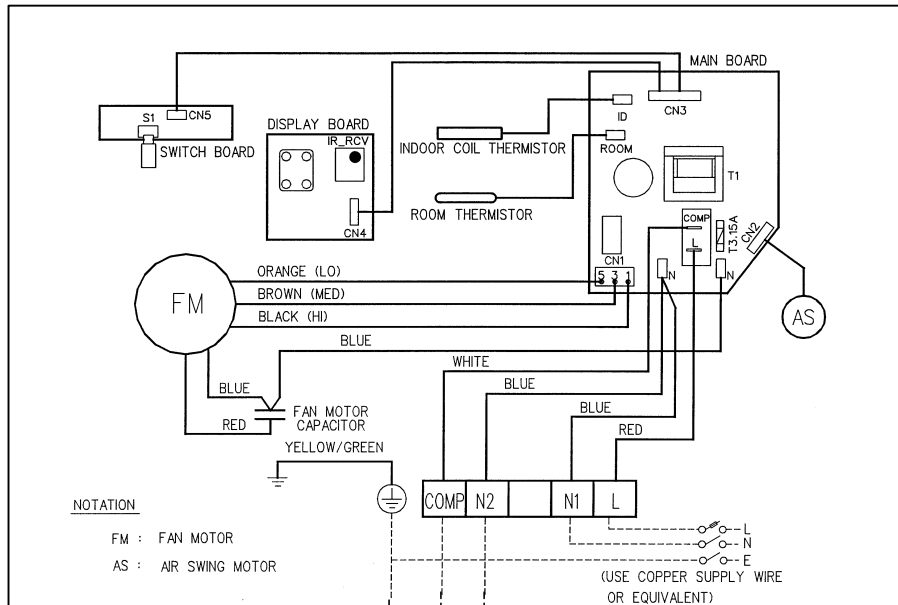


Wiring Diagrams

Cooling Only Models

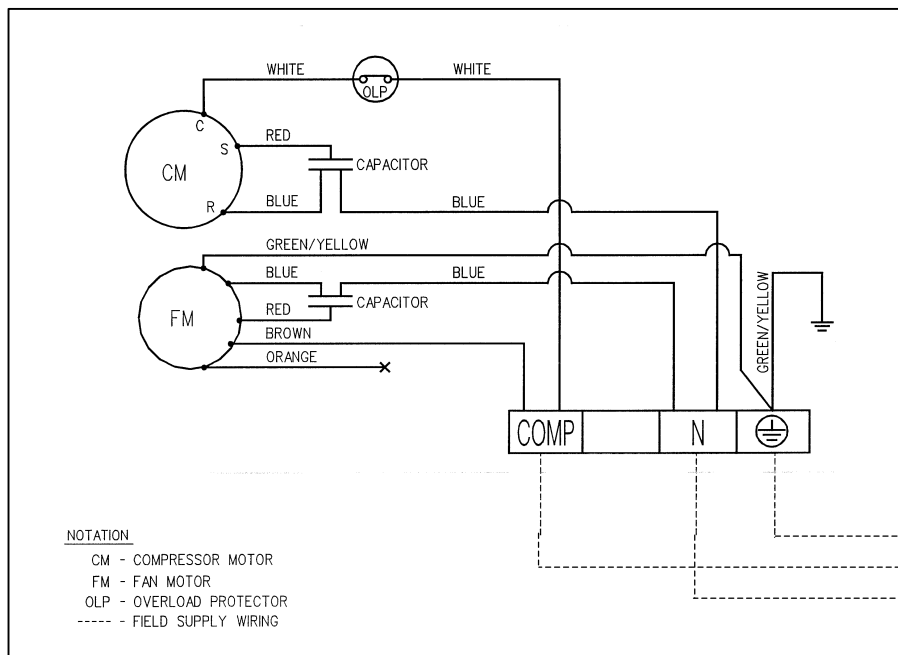
Indoor Unit

Model : MWM 007F / 010F / 015F (D2.0 I.C.)



Outdoor Unit

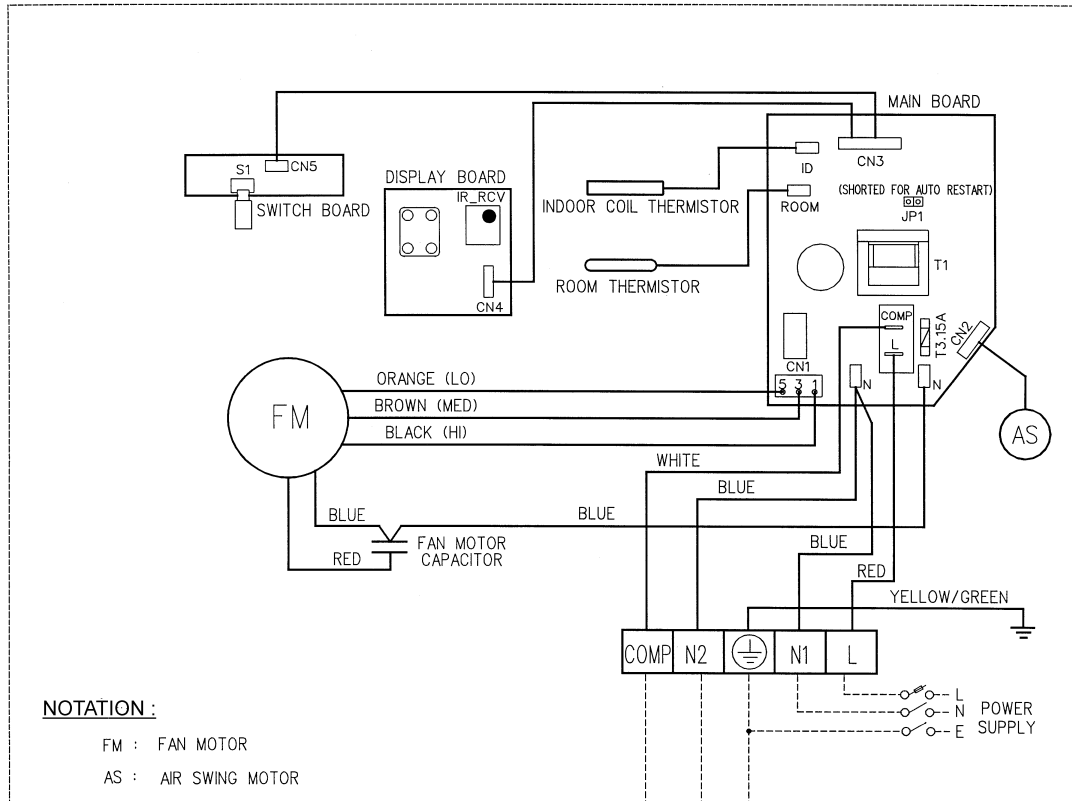
Model : MLC 007B / 010B / 015B
M4LC 007B / 010B / 015B



Cooling Only Models

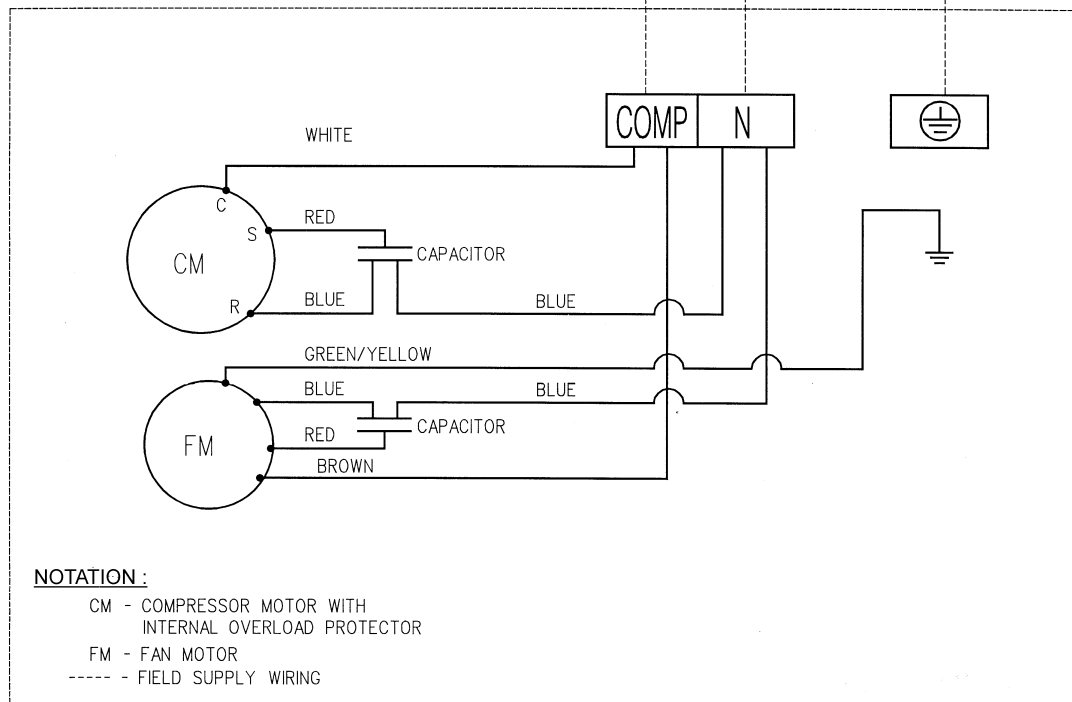
Indoor Unit

Model : MWM 020F / 025F (D2.0 I.C.)

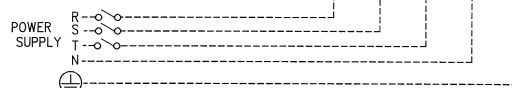
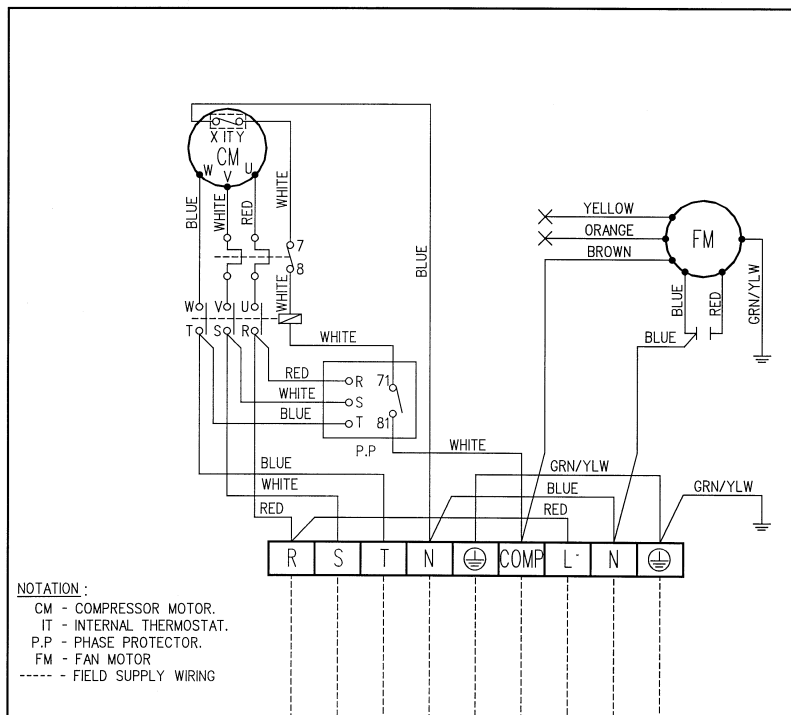
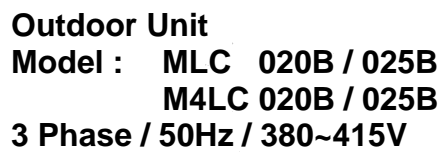


Outdoor Unit

Model : MLC 020B / 025B
M4LC 020B / 025B

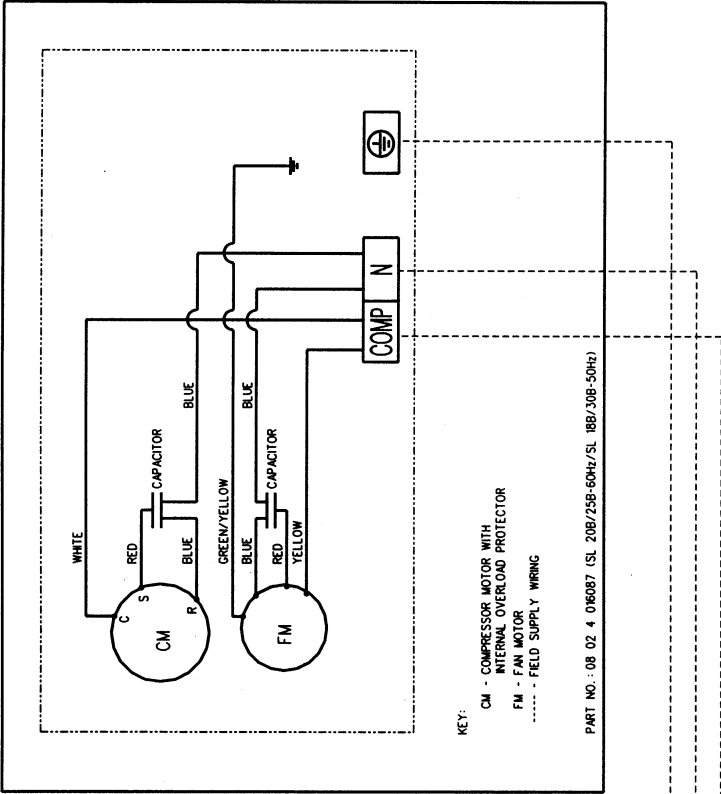


Indoor Unit
Model : MWM 020F / 025F (D2.0 I.C.)

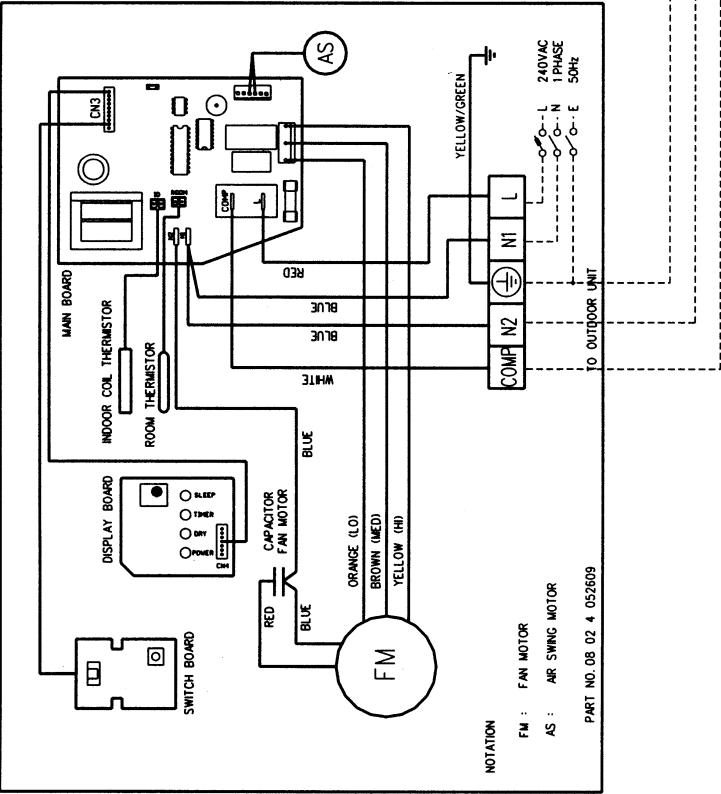


Cooling Only Models

Outdoor Unit
Model : MLC 031B



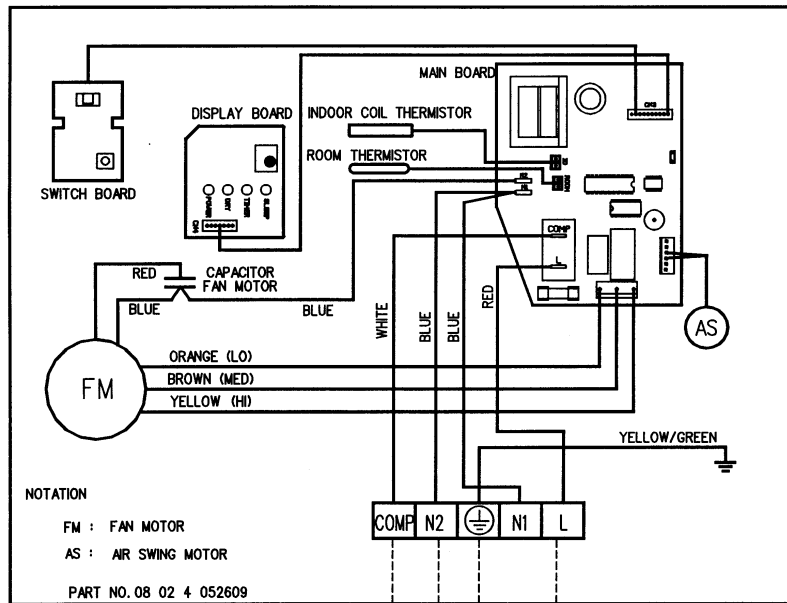
Indoor Unit
Model : MWM 031F (D2.0 I.C.)



Cooling Only Models

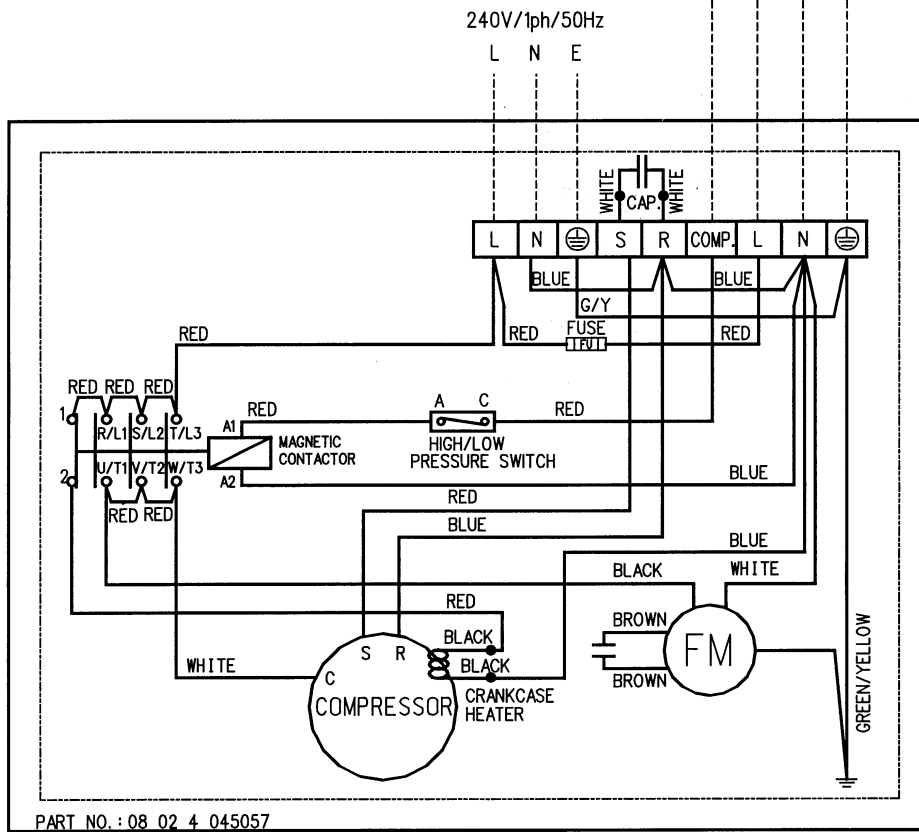
Indoor Unit

Model : MWM 031F (D2.0 I.C.)

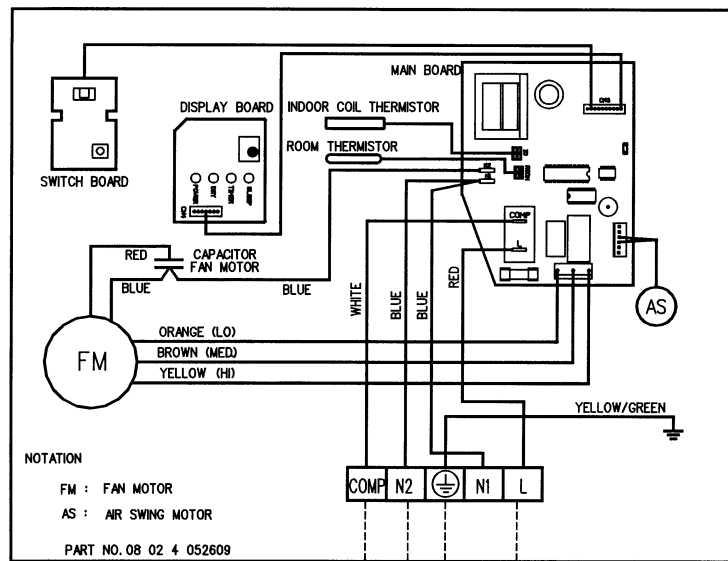


Outdoor Unit

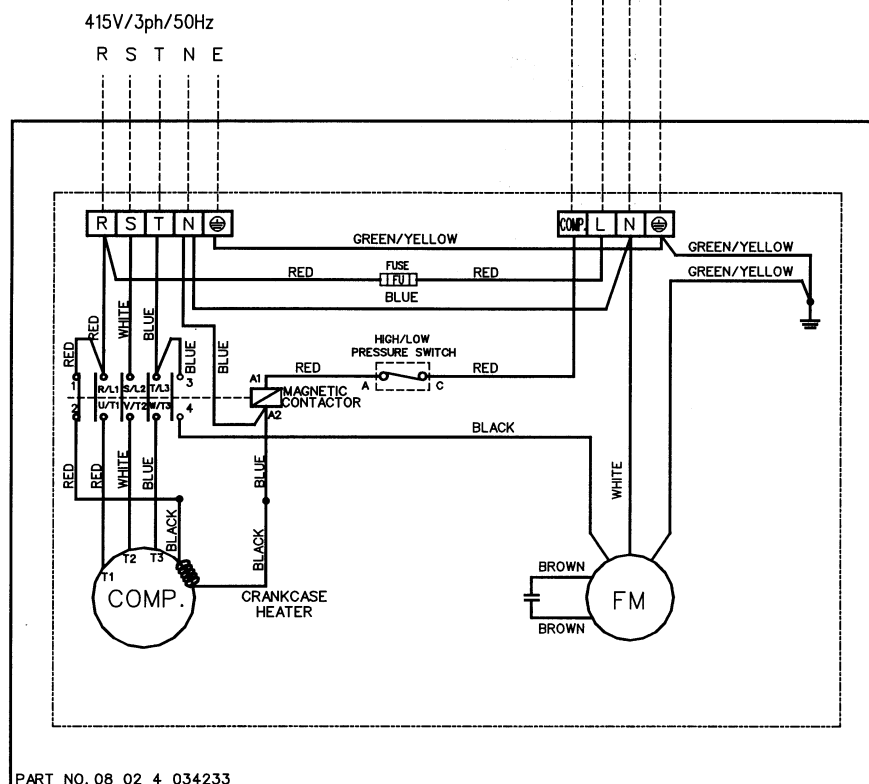
Model : MLC / M4LC 031C



Indoor Unit
Model : MWM 031F (D2.0 I.C.)



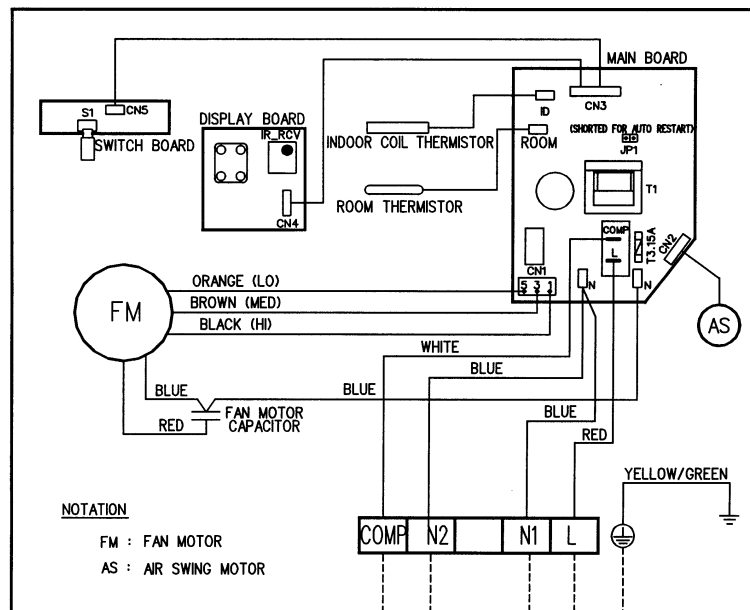
Outdoor Unit
Model : M4LC 031C
3 Phase / 50Hz / 380~415V



Cooling Only Models

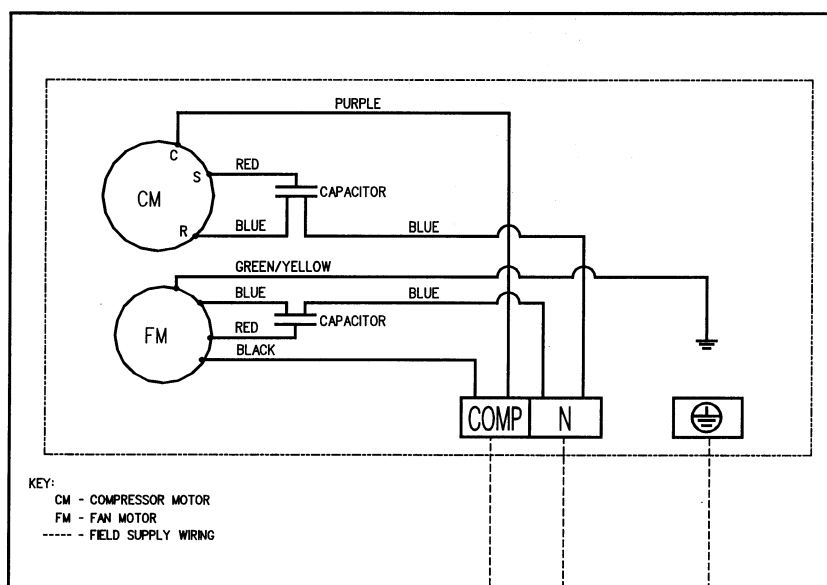
Indoor Unit

Model : MWM 007F / 015F (D2.0 I.C.)



Outdoor Unit

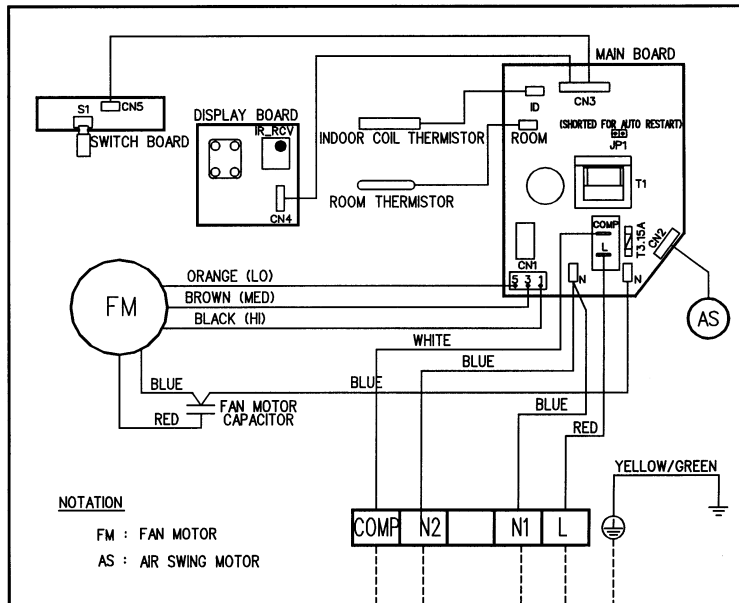
Model : MLC 007C / 015C



Cooling Only Models

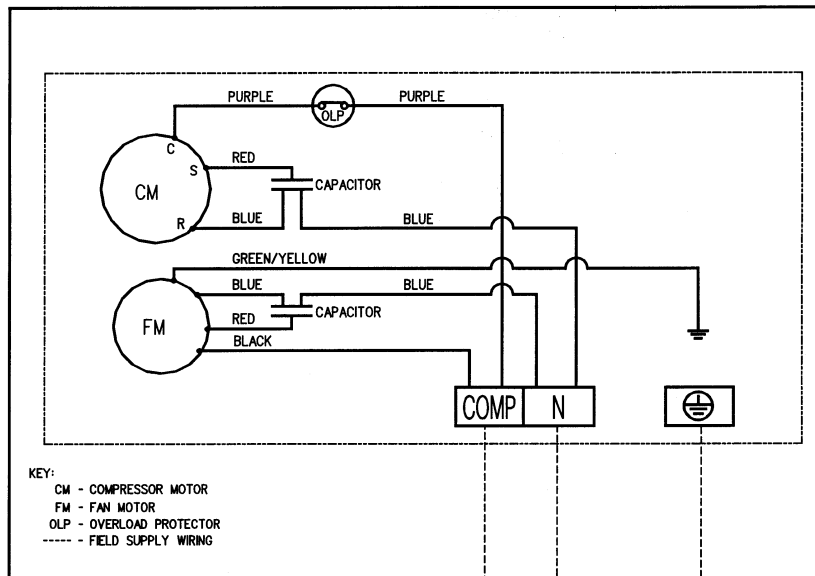
Indoor Unit

Model : MWM 010F (D2.0 I.C.)



Outdoor Unit

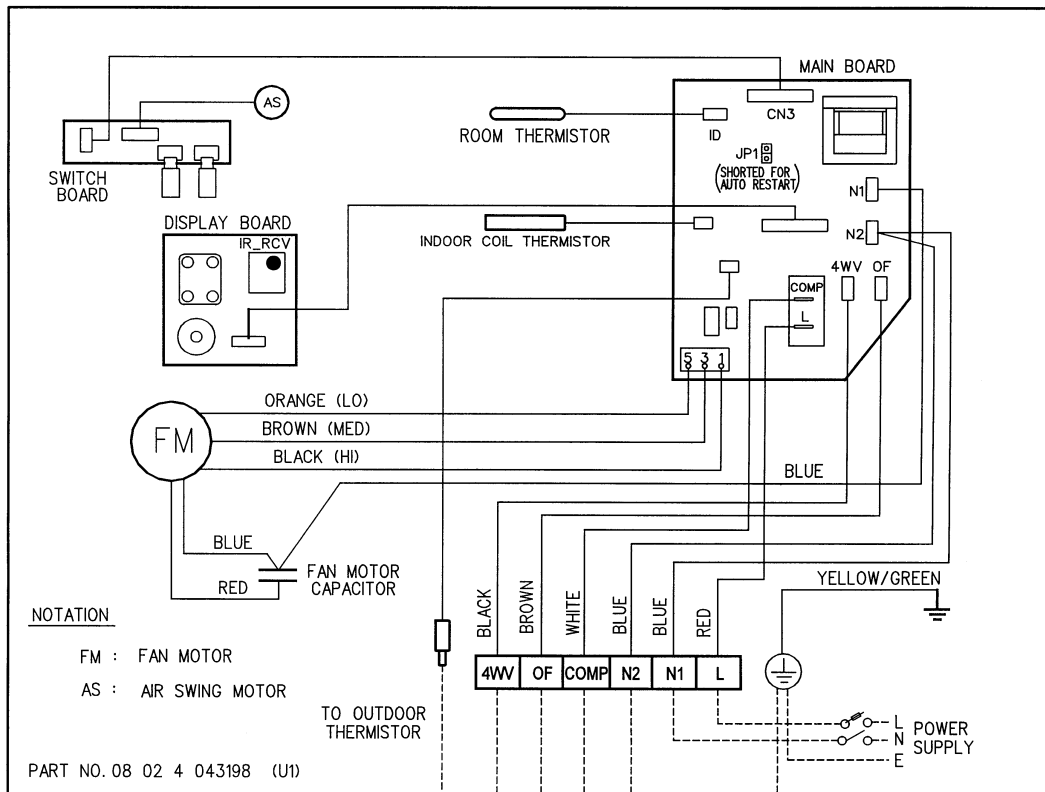
Model : MLC 010C



Heatpump Models

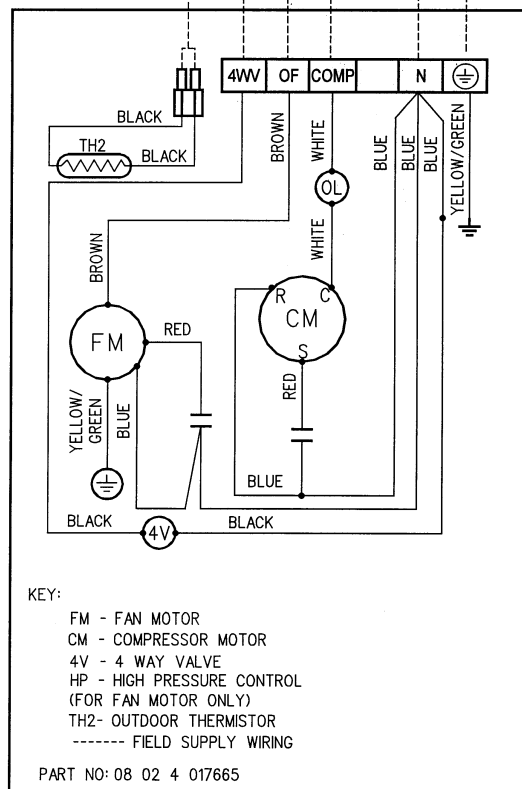
Indoor Unit

Model : MWM 007FR / 010FR / 015FR (U1.4 I.C.)



Outdoor Unit

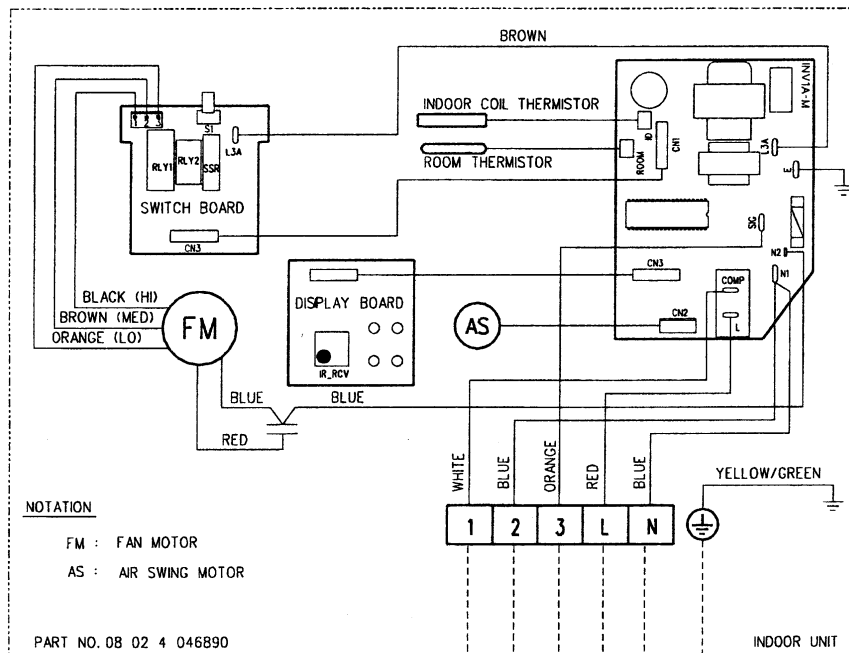
Model : MLC 007BR / 010BR / 015BR
M4LC 007BR / 010BR / 015BR



Heatpump Models

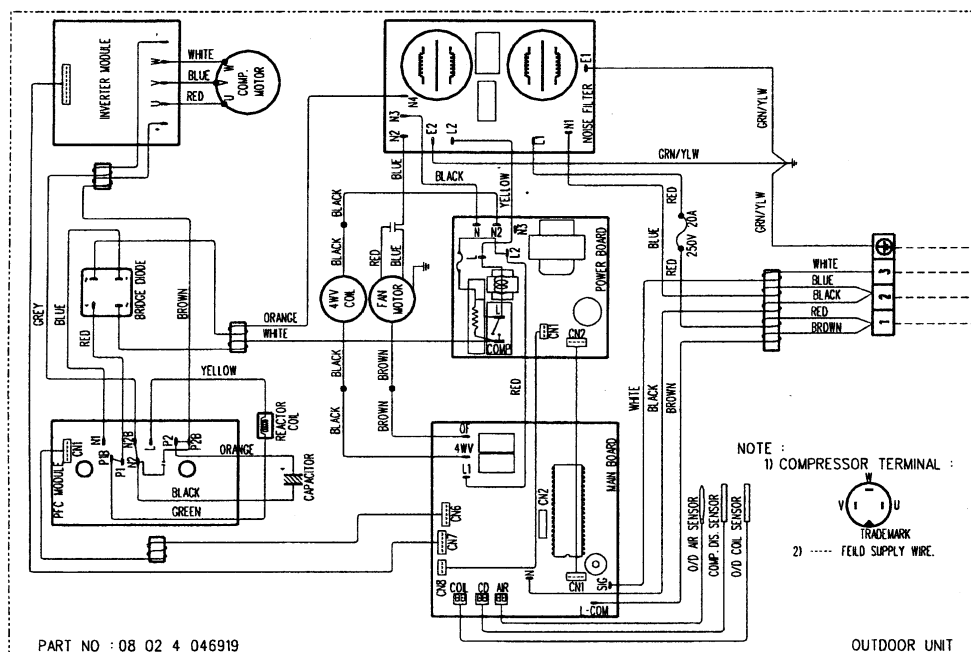
Indoor Unit

Model : MWMV 010FR (INV1A I.C.)



Outdoor Unit

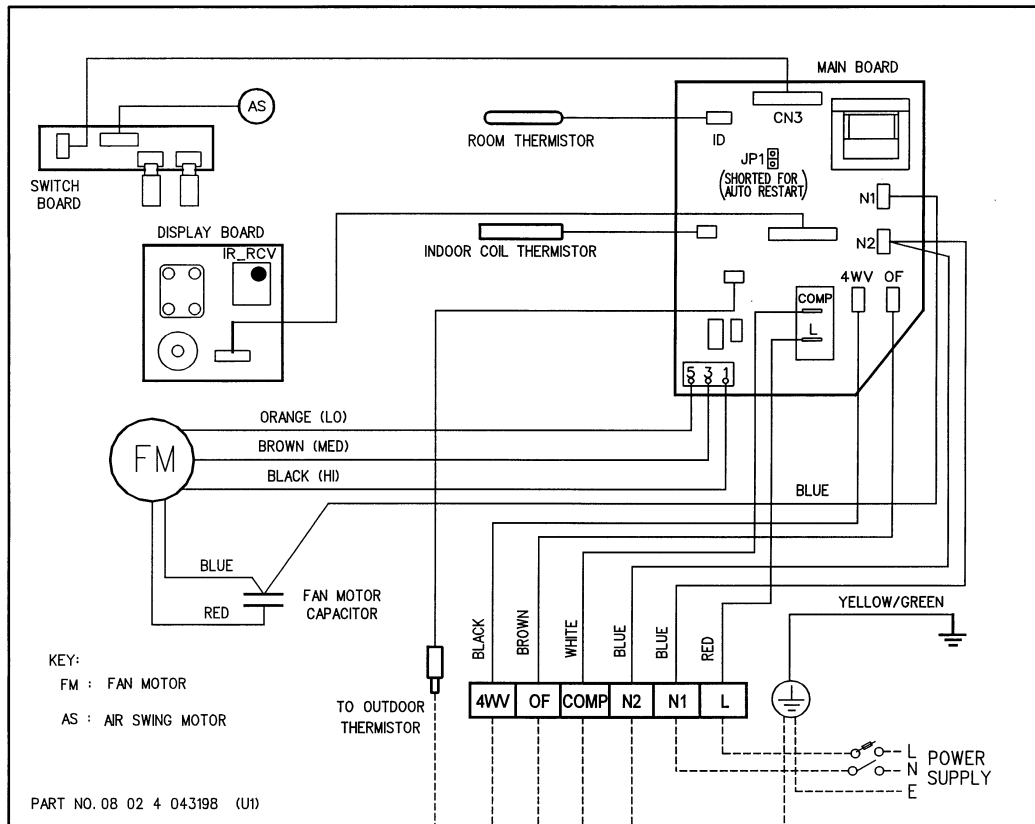
Model : MLCV 010BR



Heatpump Models

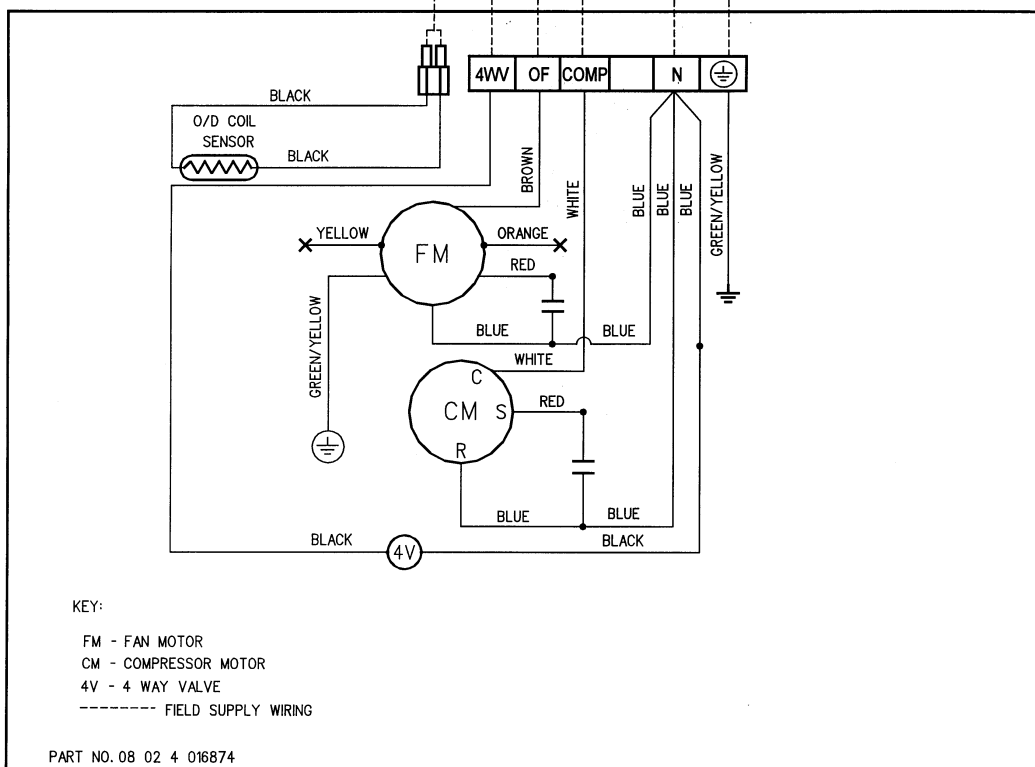
Indoor Unit

Model : MWM 020FR / 025FR (U1.4 I.C.)



Outdoor Unit

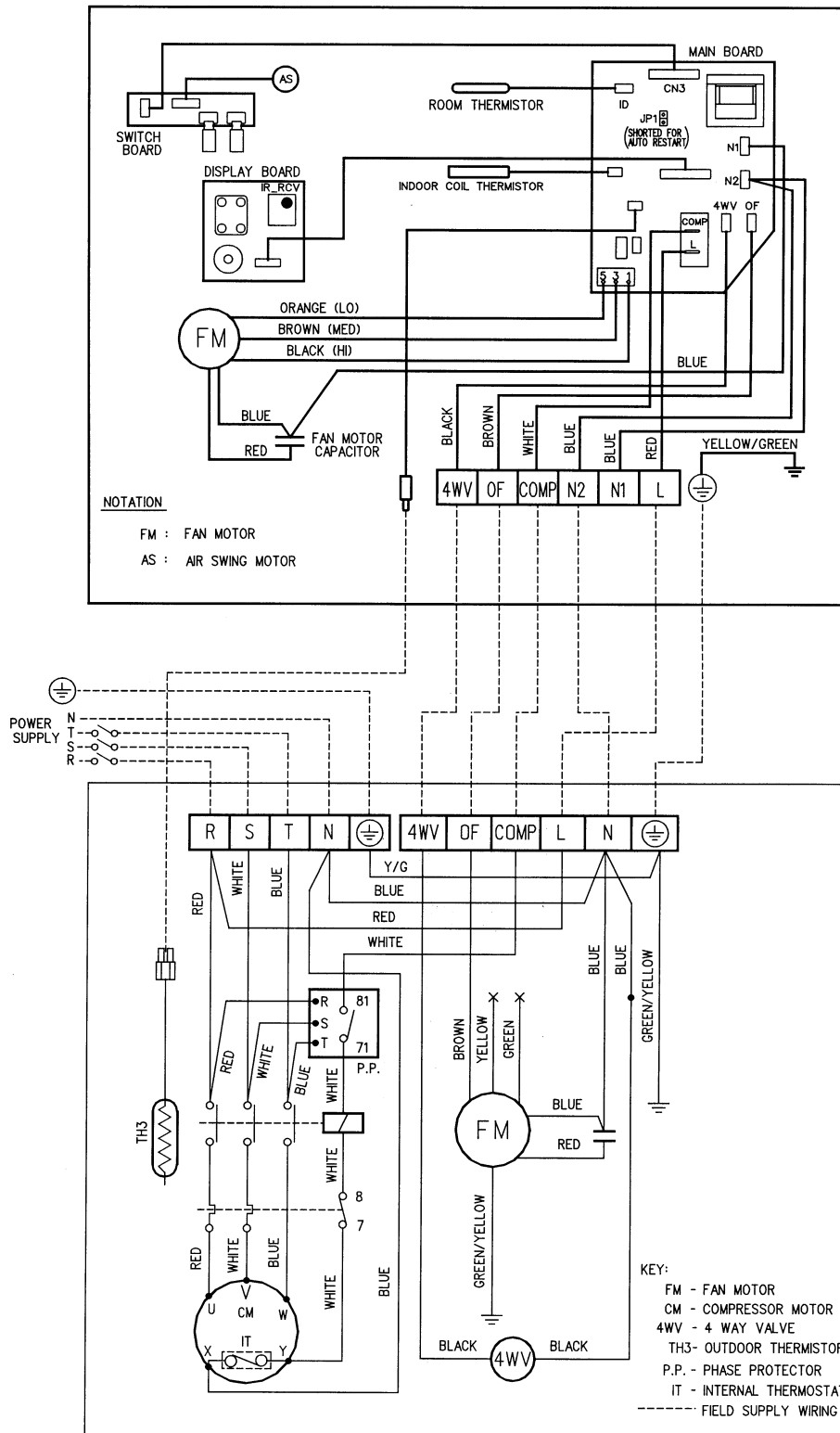
Model : MLC 020BR / 025BR
M4LC 020BR / 025BR



Heatpump Models

Indoor Unit

Model : MWM 020FR / 025FR (U1.4 I.C.)



Outdoor Unit

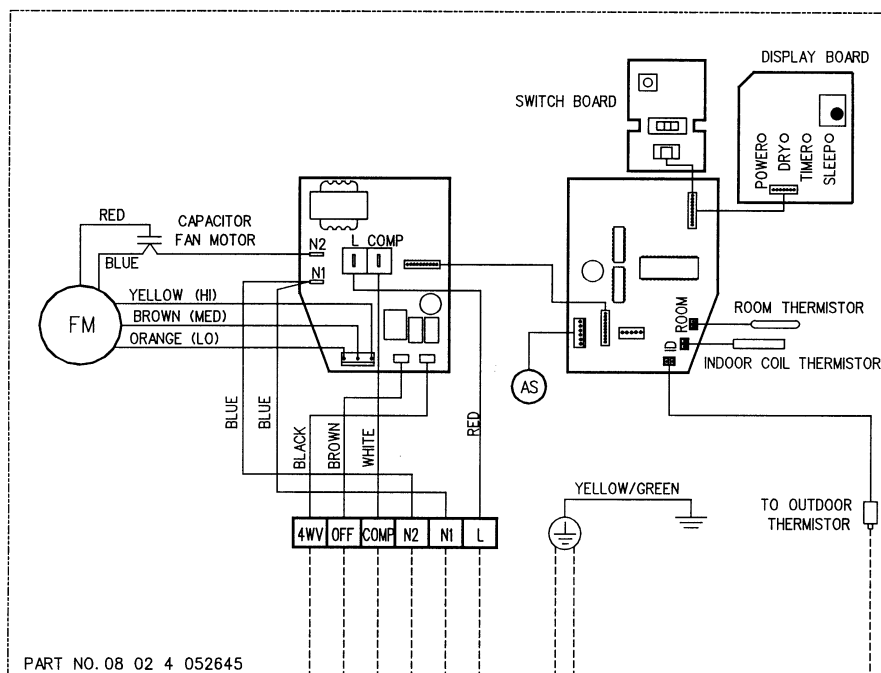
Model : MLC 020BR / 025BR
M4LC 020BR / 025BR

3 Phase / 50Hz / 380~415V

Heatpump Models

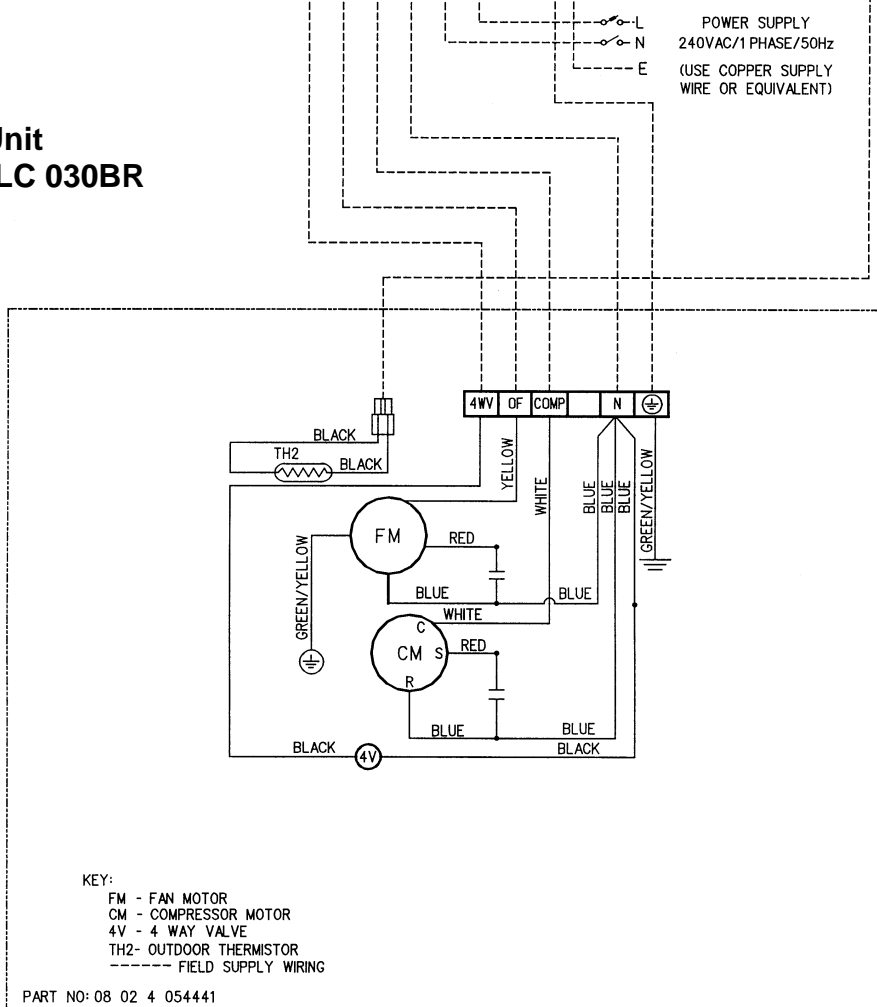
Indoor Unit

Model : MWM 030FR (U1.4 I.C.)



Outdoor Unit

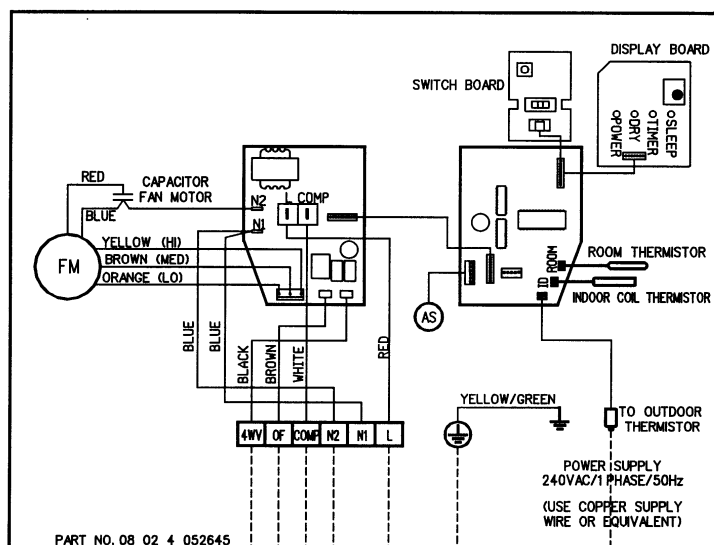
Model : MLC 030BR



Heatpump Models

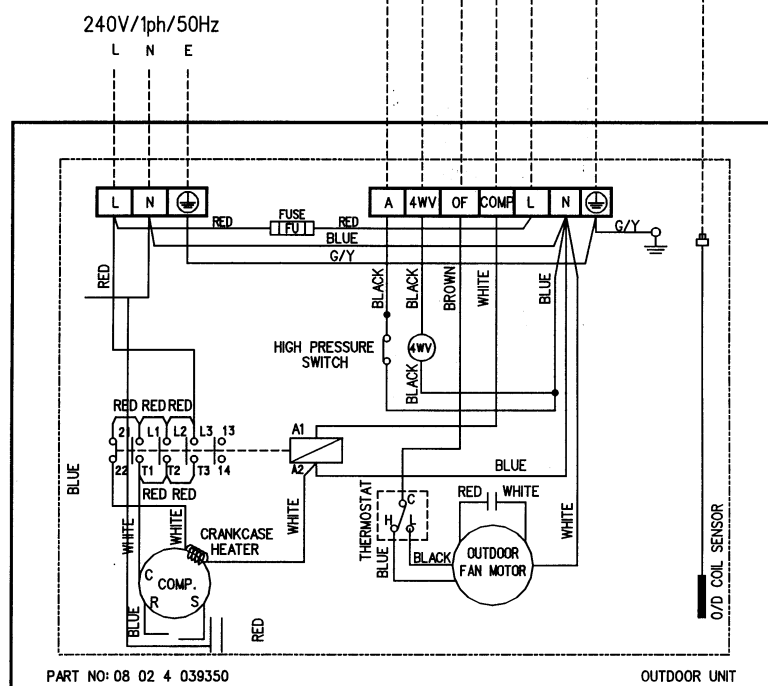
Indoor Unit

Model : MWM 030FR (U1.4 I.C.)



Outdoor Unit

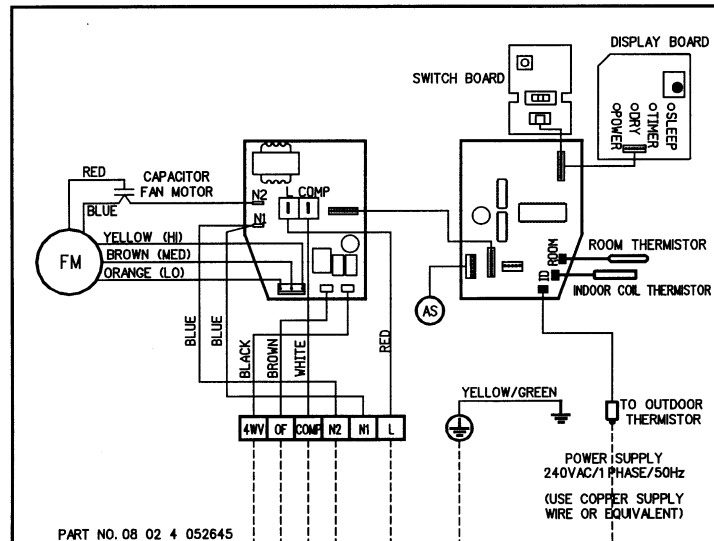
Model : MLC / M4LC 030CR



Heatpump Models

Indoor Unit

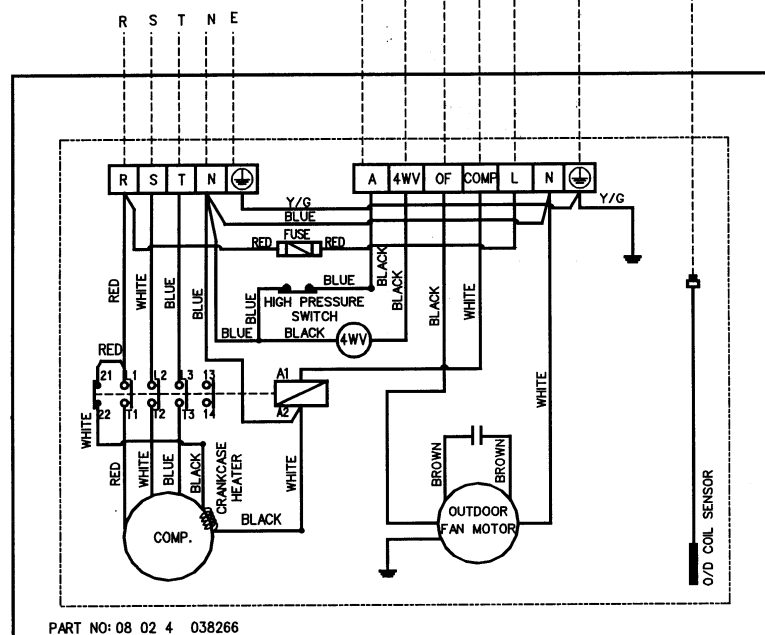
Model : MWM 030FR (U1.4 I.C.)



Outdoor Unit

Model : MLC / M4LC 030CR

3 Phase / 50Hz / 380~415V

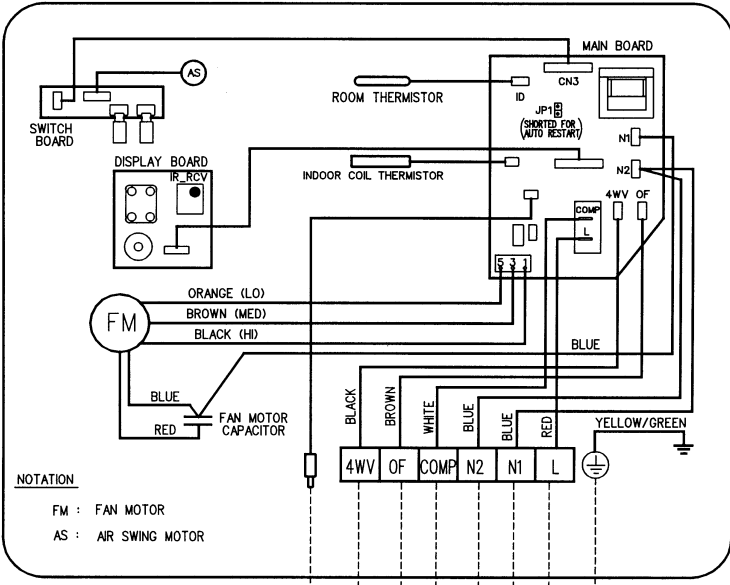


Model : MWM 007FR / 015FR (U1.4 I.C.)

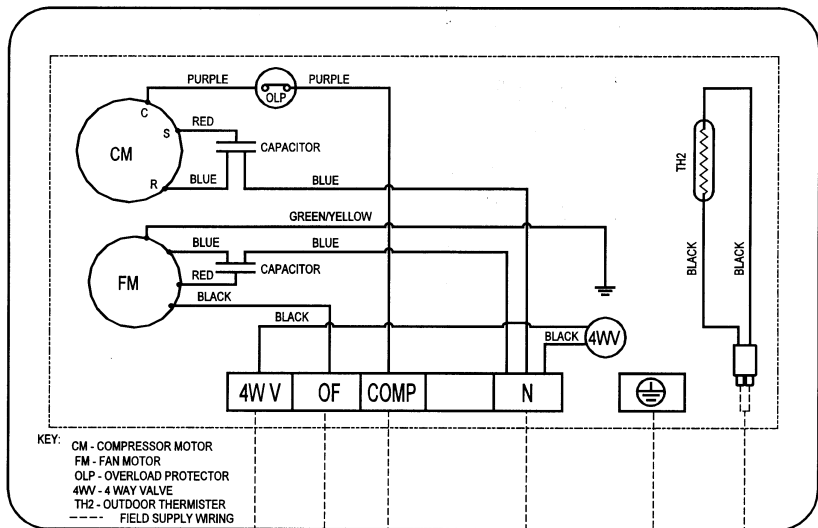


Heatpump Models

Indoor Unit
Model : MWM 010FR (U1.4 I.C.)



Outdoor Unit
Model : MLC 010CR



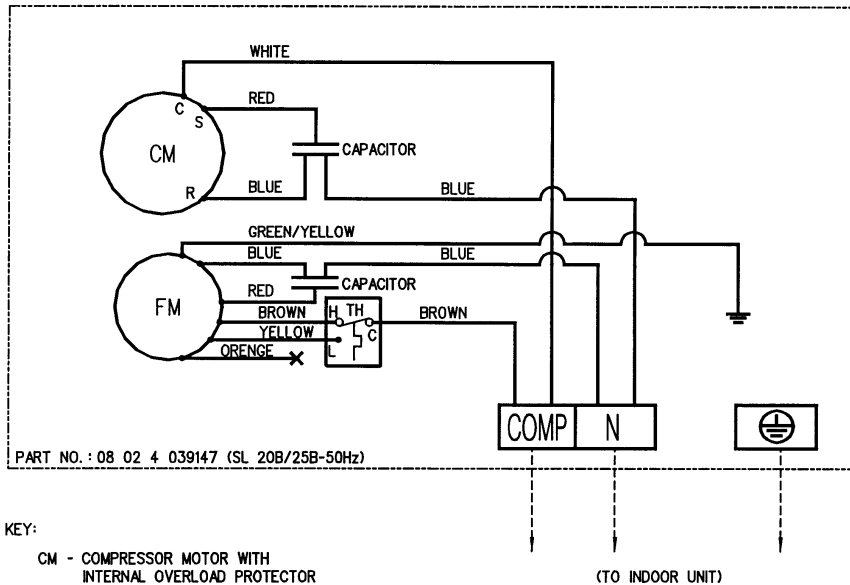
High Ambient Unit (Optional) Cooling Only Models

Outdoor Unit

Model : MLC 020B / 025B

50Hz / 1 Phase / 220 – 240V

60Hz / 1 Phase / 208 – 230V

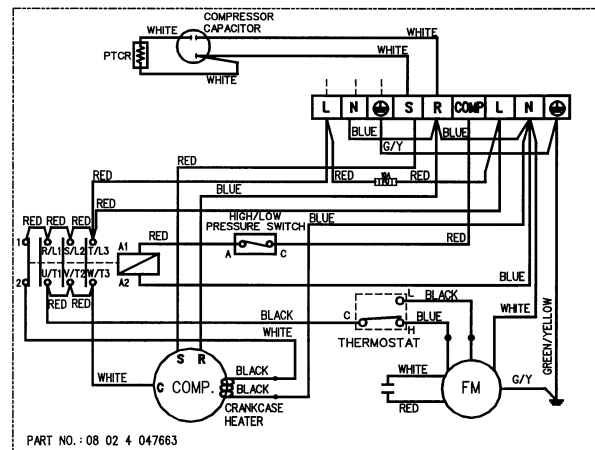
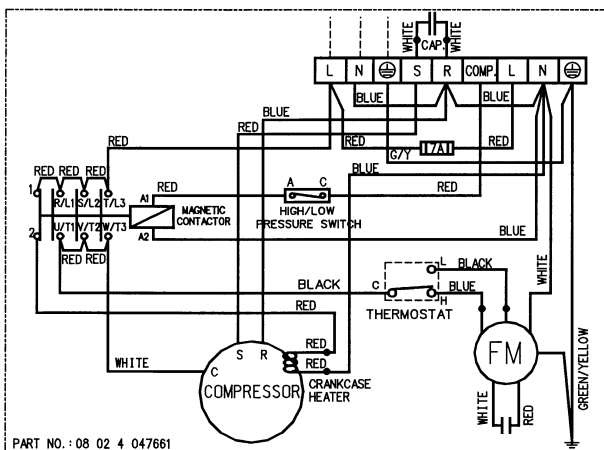


Outdoor Unit

Model : MLC 031C

50Hz / 1 Phase / 220 – 240V,

60Hz / 1 Phase / 208 – 230V

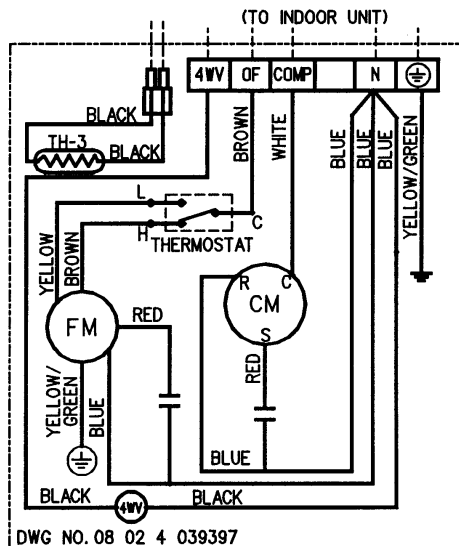


High Ambient Unit (Optional) Heatpump Models

Outdoor Unit

Model : MLC 020BR / 025BR

50Hz / 1 Phase / 220 – 240V



KEY:

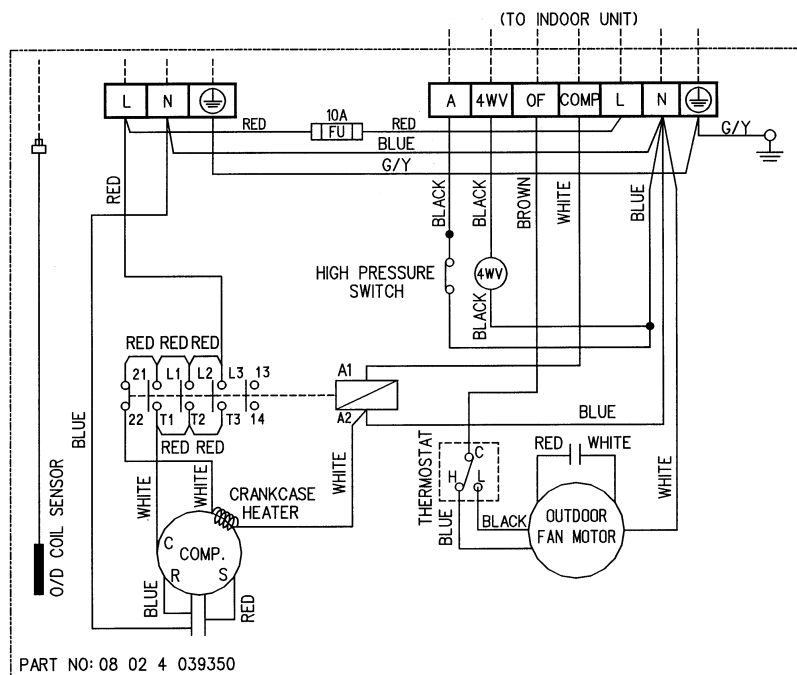
FM - FAN MOTOR
CM - COMPRESSOR MOTOR
4WV - 4 WAY VALVE
TH3 - OUTDOOR THERMISTOR
----- FIELD SUPPLY WIRING

Outdoor Unit

Model : MLC 030CR

50Hz / 1 Phase / 220 – 240V

60 Hz / 1 Phase / 220V

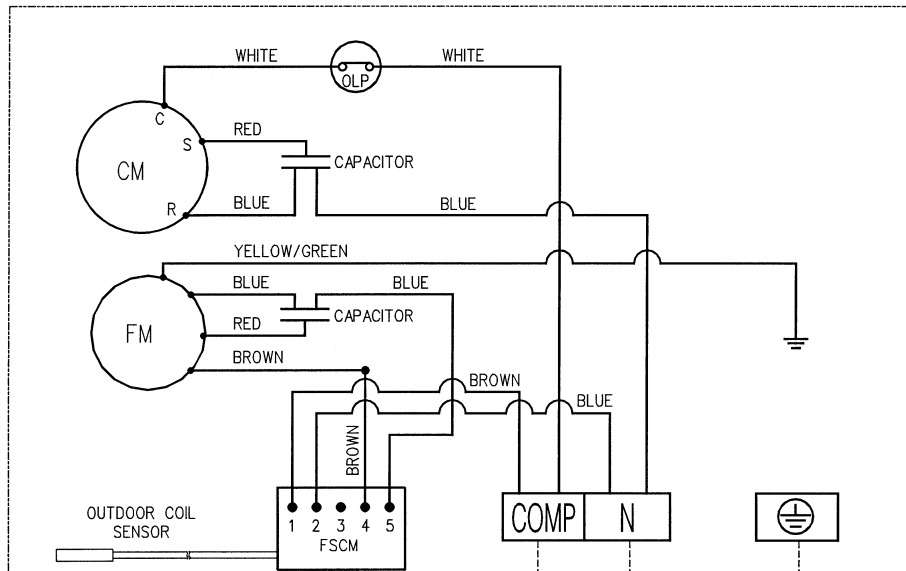


Low Ambient Unit (Optional) Cooling Only Models

Outdoor Unit

Model : MLC 010B / 015B

50Hz / 1 Phase / 220~240V



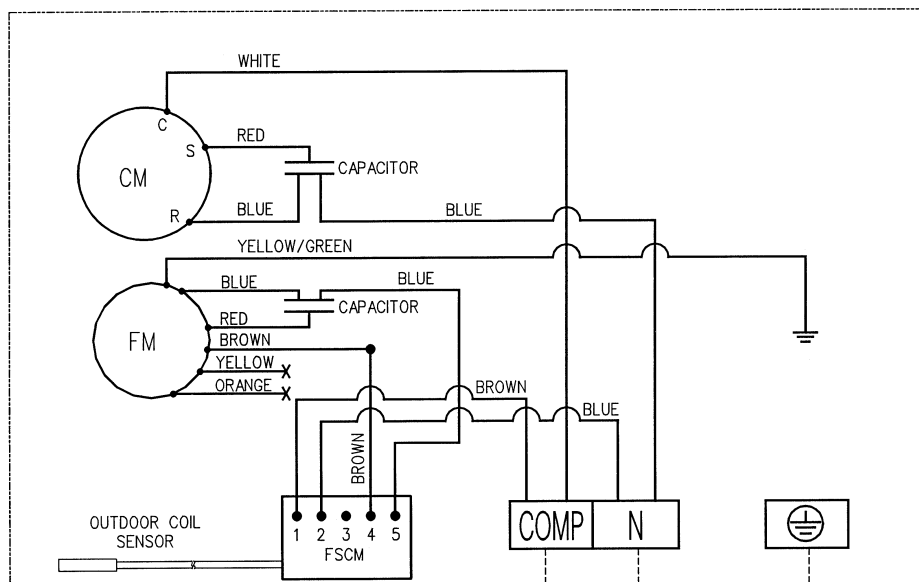
KEY:
CM - COMPRESSOR MOTOR
FM - FAN MOTOR
OLP - OVERLOAD PROTECTOR
FSCM - FAN SPEED CONTROL MODULE
----- FIELD SUPPLY WIRING

(TO INDOOR UNIT)

Outdoor Unit

Model : MLC 020B / 025B

50Hz / 1 Phase / 220~240V



KEY:
CM - COMPRESSOR MOTOR
FM - FAN MOTOR
OLP - OVERLOAD PROTECTOR
FSCM - FAN SPEED CONTROL MODULE
----- FIELD SUPPLY WIRING

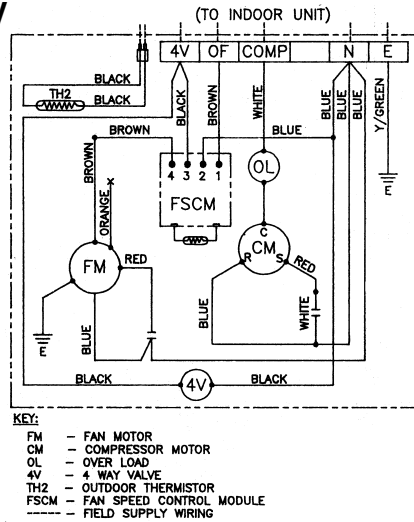
(TO INDOOR UNIT)

Low Ambient Unit (Optional) Heatpump Models

Outdoor Unit

Model : MLC 010BR / 015BR

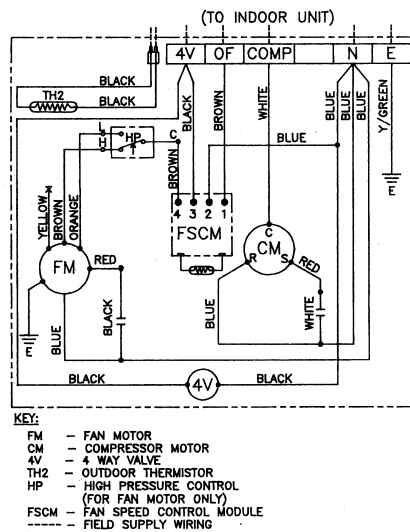
50Hz / 1 Phase / 220 – 240V



Outdoor Unit

Model : MLC 020BR

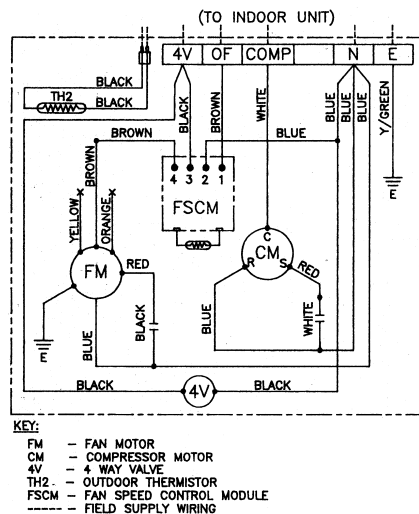
50Hz / 1 Phase / 220 – 240V



Outdoor Unit

Model : MLC 025BR

50Hz / 1 Phase / 220 – 240V



Safety Precautions Before Installation

Before operating, please read the following "Safety Precautions" carefully.

To prevent injury to the user or other people and properties damage, the following instructions must be followed.

- Incorrect operation due to ignoring of instruction will cause harm or damage, the seriousness is classified by the following indications.



Warning: This sign indicates the possibility of causing death or serious injury.



Caution: This sign indicates the possibility of causing injury or damage to properties only.



Warning


- This unit must be installed by a qualified technician.
- All field wiring must accordance to the National Wiring Regulation.

Important

The wires in this mains lead are coloured in accordance with the following code:

Green-and-yellow	→	Earth
Blue	→	Neutral
Brown	→	Live

As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

- The wire which is coloured green-and-yellow must be connected to the terminal in the plug which is marked with the earth symbol  or coloured green or green-and-yellow.
- The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
- The wire which is coloured brown must be connected to the terminal which is marked with letter L or coloured red.

Note

If the supply cord is damaged, it must be replaced by the special cord obtainable at authorized service/parts centers.

This unit is not provided with a plug, therefore the power supply wire must be connected by a qualified chageman.

Caution

Remove power plug or disconnect from the mains before servicing the appliance.



Symbol (with white background) denotes item that is PROHIBITED from doing.



Symbol (with black background) denotes item that is COMPULSORY to be carried out.



Caution

Please confirm the following important points when installation

- **Grounding is necessary**



It may cause electrical shock if grounding is not perfect.

- **Do not install the unit where leakage of flammable gas may occur**



In case of gas leaks and accumulates at the surrounding of the unit, it may cause fire ignition.

- **Confirm drainage piping is connected properly**



If it is not connected perfectly, it may cause water leakage and dampen the furniture.

- **Confirm the unit is switched off before install, service or maintain the unit**



If it is not switched off, it may cause injury to the installer by any of the moving part especially fan.

- **Do not overcharge the unit**



This unit is factory pre-charged. Over charge will cause over current or damage to the compressor.
Refer to page 25 in case of top up charge is necessary.

- **Confirm cover back the unit panel after servicing or installation**



Unsecure panel will cause unit noisy.

Special Precautions For R407C

Special precautions when dealing with refrigerant R407C unit

1) What is new refrigerant R407C?

R407C is a zeotropic refrigerant mixture which has Zero Ozone Depletion Potential (ODP = 0) and thus conformed to the Montreal Protocol regulation. It requires Polyol-ester oil (POE) oil for its compressor's lubricant. Its refrigerant capacity and performance are about the same as the refrigerant R22.

2) Components

Mixture weight composition R32(23%), R125(25%), R134a(52%)

3) Characteristic

- R407C liquid and vapor components have different compositions when the fluid evaporates or condenses. Hence, when leak occurs and only vapor leaks out, the composition of the refrigerant mixture left in the system will change and subsequently affect the system performance. **DO NOT** add new refrigerant to leaked system. It is recommended that the system should be evacuated thoroughly before recharging with R407C.
- When refrigerant R407C is used, the composition will differ depending on whether it is in gaseous or liquid phase. Hence when charging R407C, ensure that only liquid is being withdrawn from the cylinder or can. This is to make certain that only original composition of R407C is being charged into the system.
- POE oil is used as lubricant for R407C compressor, which is different from the mineral oil used for R22 compressor. Extra precaution must be taken not to expose the R407C system too long to moist air.

4) Check list before installation/servicing

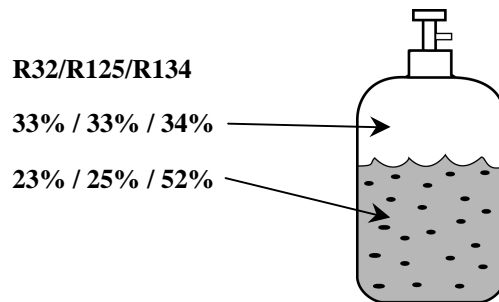
- Tubing
Refrigerant R407C is more easily affected by dust or moisture compared with R22, make sure to temporarily cover the ends of the tubing prior to installation
- Compressor oil
No additional charge of compressor oil is permitted.
- Refrigerant
No other refrigerant other than R407C
- Tools
Tools specifically for R407C only (must not be used for R22 or other refrigerant)
 - i) Manifold gauge and charging hose
 - ii) Gas leak detector
 - iii) Refrigerant cylinder/charging cylinder
 - iv) Vacuum pump c/w adapter
 - v) Flare tools
 - vi) Refrigerant recovery machine

5) Handling and installation guidelines

Like R22 system, the handling and installation of R407C system are closely similar. All precautionary measures; such as ensuring no moisture, no dirt or chips in the system, clean brazing using nitrogen, and thorough leak check and vacuuming are equally important requirements. However, due to zeotropic nature of R407C and its hygroscopic POE oil, additional precautions must be taken to ensure optimum and trouble-free system operation.

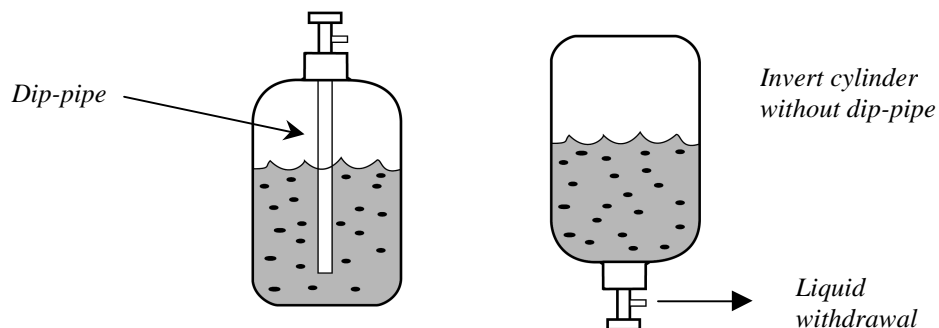
- a) Filter-dryer must be installed along the liquid line for all R407C air conditioners. This is to minimise the contamination of moisture and dirt in the refrigerant system. Filter-dryer must be of molecular sieve type. For a heat-pump system, install a two-way flow filter dryer along the liquid line.
- b) During installation or servicing, avoid prolong exposure of the internal part of the refrigerant system to moist air. Residual POE oil in the piping and components can absorb moisture from the air.

- c) Ensure that the compressor is not exposed to open air for more than the recommended time specified by its manufacturer (typically less than 10 minutes). Remove the seal-plugs only when the compressor is about to be brazed.
- d) The system should be thoroughly vacuumed to 1.0 Pa (-700mmHg) or lower. This vacuuming level is more stringent than R22 system so as to ensure no incompressible gas and moisture in the system.
- e) When charging R407C, ensure that only liquid is being withdrawn from the cylinder or can. This is to ensure that only the original composition of R407C is being delivered into the system. The liquid composition can be different from the vapor composition.



*Composition of R407C in vapour phase
is different from liquid phase.*

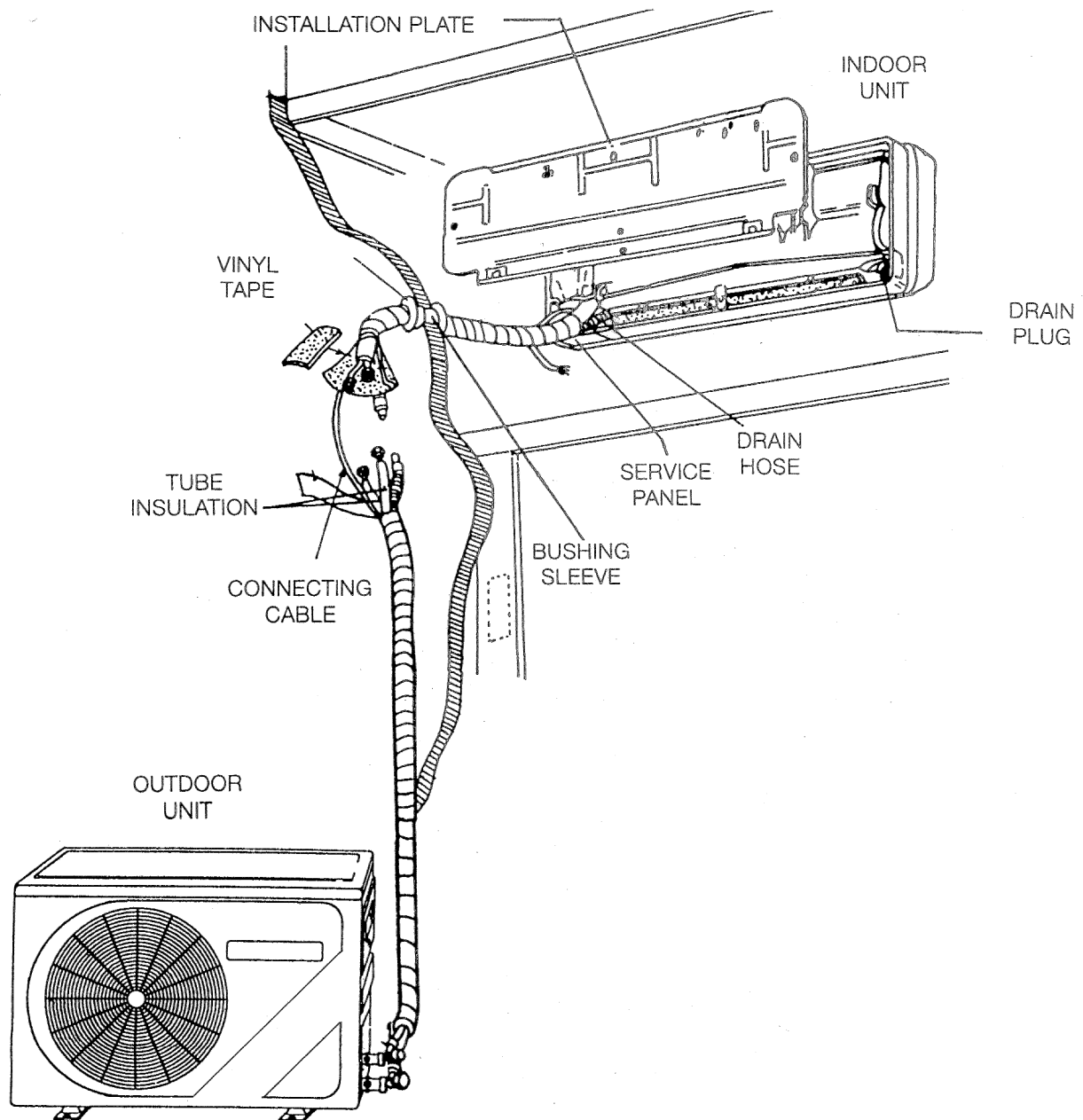
- f) Normally, the R407C cylinder or can is being equipped with a dip-pipe for liquid withdrawal. However, if the dip-pipe is not available, invert the cylinder or can so as to withdraw liquid from the valve at the bottom.



- g) When servicing a leak, the top-up method, commonly practiced for R22 system, is not recommended for R407C system. Unlike R22 where the refrigerant is of a single component, the composition of R407C, which is made up of three different components, may have changed during the leak. Consequently, a top-up may not ensure that the R407C in the system is of original composition. This composition shift may adversely affect the system performance. It is recommended that the system should be evacuated thoroughly before recharging with R407C.

Installation

Installation diagram



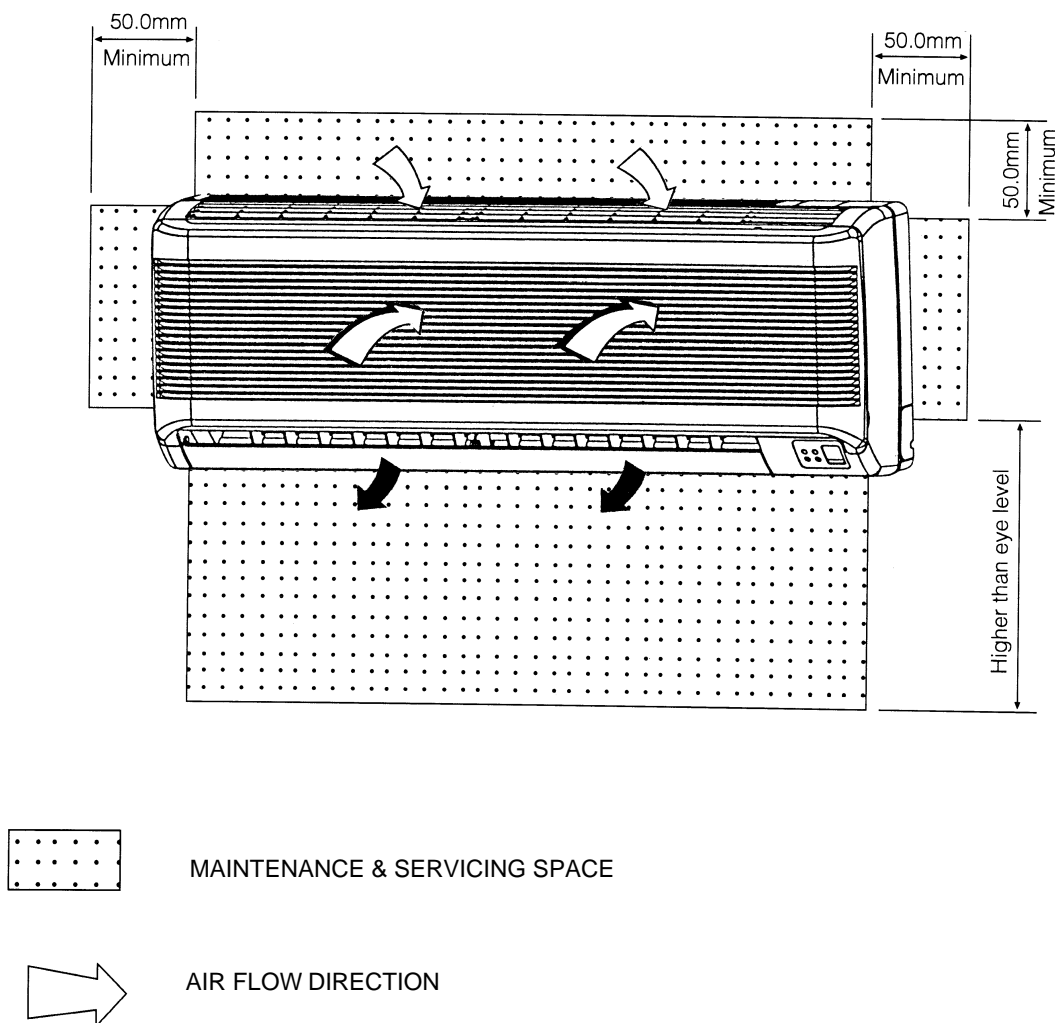
CAUTION: Before installing the unit, ensure that the power supply matches the power requirement of the air conditioner.

1) Selection Of Location And Space

(A) Indoor Unit

Install the fan coil (indoor) unit at a location with the following requirements

- Location is suitable for wiring, piping and drainage.
- No obstruction of air flow into and out of unit where cooler air can be evenly distributed.(See fig. 1)
- Ensure that air discharge is not short circuited with air intake.
- Ensure that wall is sufficiently strong, rigid, flat, perpendicular and vibration free.
- Where air filter cassette can be slid in or out easily.
- Where there is no danger of flammable gases.
- Where there is no direct sunlight on unit.
- Also to take into consideration a place for the installation of the Wireless LCD Remote Controller.



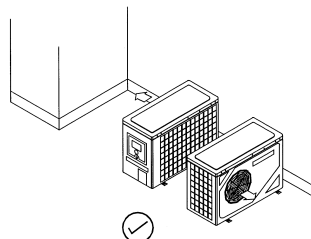
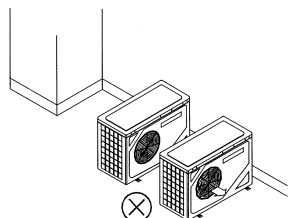
CAUTION : Do not install unit near the door way because excessive fresh air may cause panel condensation on the unit.

Fig. 1

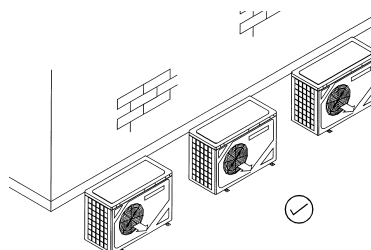
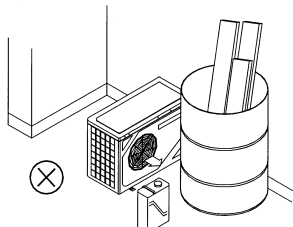
(B) Outdoor unit

As condensing temperature rises, evaporating temperature rises and cooling capacity drops. In order to achieve maximum cooling capacity, the location selected for outdoor unit should fulfill the following requirements :

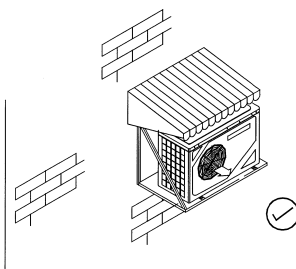
- Install the condensing (outdoor) unit in a way such that hot air distributed by the outdoor condensing unit cannot be drawn in again (as in the case of short circuit of hot discharge air). Allow sufficient space for maintenance around the unit.



- Ensure that there is no obstruction of air flow into or out of the unit. Remove obstacles which block air intake or discharge.



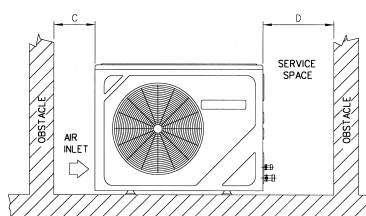
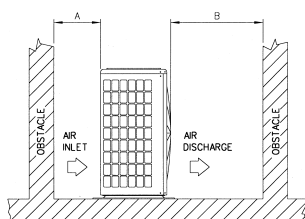
- The location must be well ventilated, so that the unit can draw in and distribute plenty of air thus lowering the condensing temperature.
- A place capable of bearing the weight of the outdoor unit and isolating noise and vibration.
- A place protected from direct sunlight. Otherwise use an awning for protection, if necessary.



- The location must not be susceptible to dust or oil mist.

Installation clearance

- Outdoor units must be installed such that there is no short circuit of the hot discharge air or obstruction to smooth air flow. Select the coolest possible place where intake air should not be hotter than the outside temperature (max. 45°C)

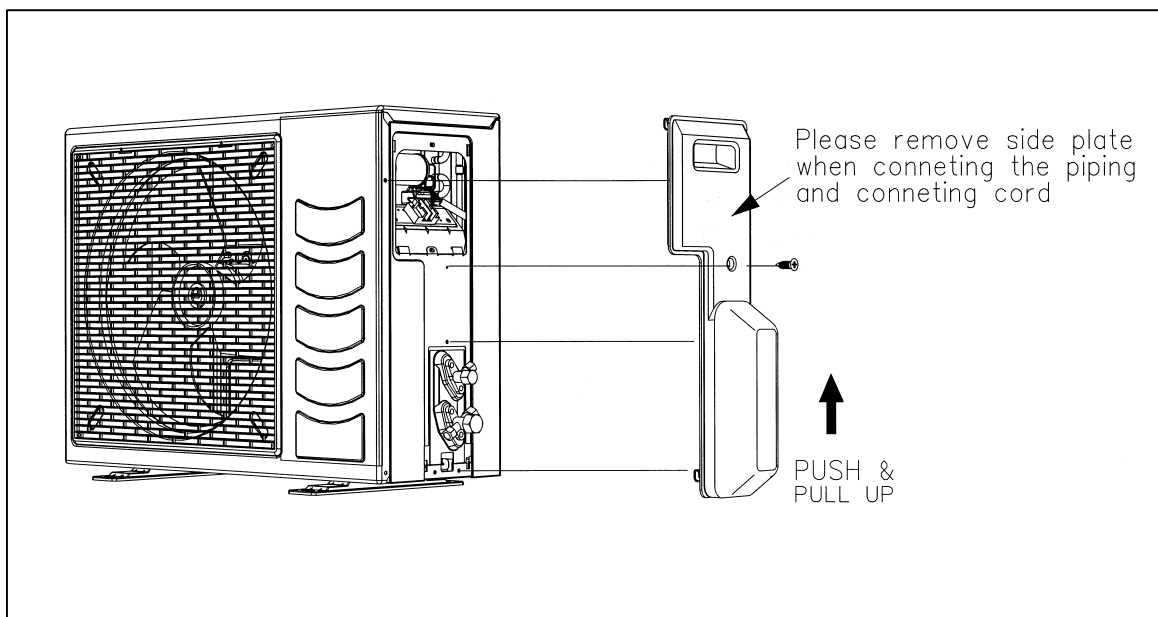
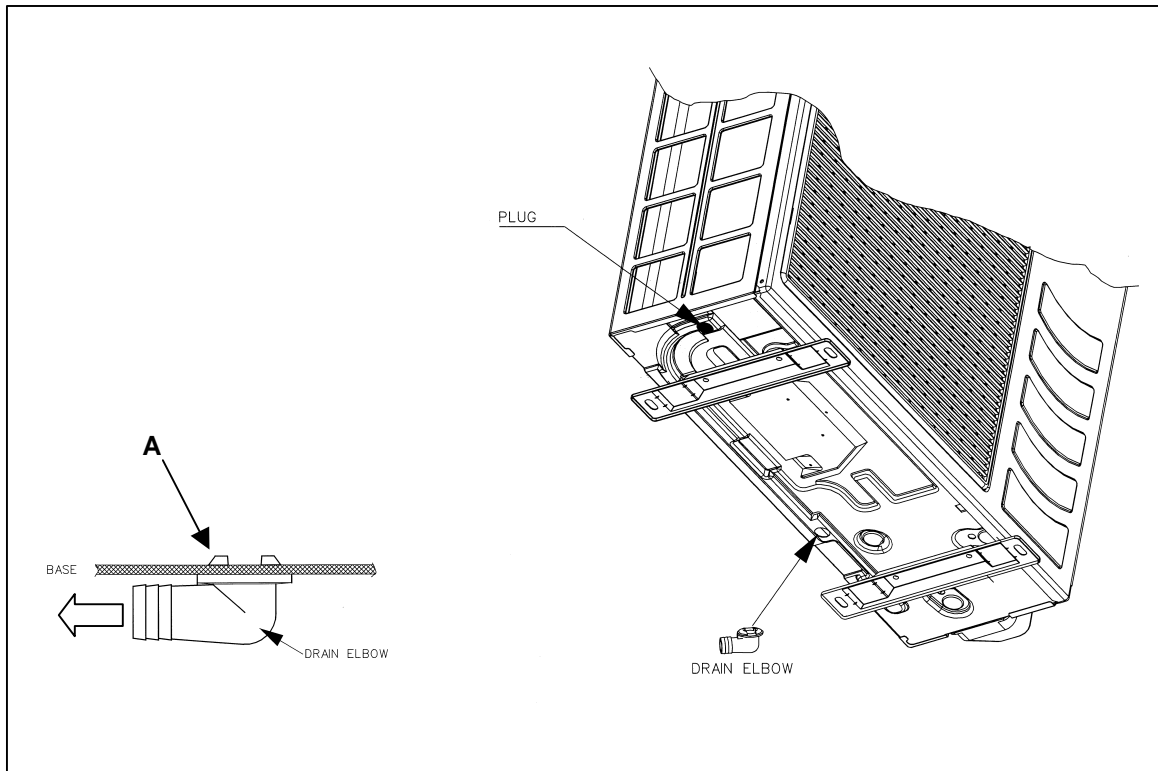


ALL MODELS	A	B	C	D
Minimum Distance	300 mm	1000 mm	300 mm	500 mm

CAUTION : If the condensing unit is operated in an atmosphere containing oils(including machine oils), salt(coastal area), sulphide gas(near hot spring, oil refinery plant), such substances may lead to failure of the unit.

Condensed Water Disposal Of Outdoor Unit (Heatpump Unit Only)

- There are 2 holes on the base of outdoor unit for condensed water to flow out. Insert the drain elbow to one of the holes.
- To install the drain elbow, first insert one portion of the hook to the base (portion A), then pull the drain elbow in the direction shown by the arrow while inserting the other portion to the base. After installation, check to ensure that the drain elbow clings to base firmly.
- If the unit is installed in a snowy and chilly area, condensed water may freeze in the base. In such case, please remove plug at the bottom of unit to smooth the drainage.



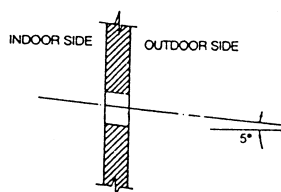
2) Drilling Holes And Mounting Installation Plate

CAUTION:

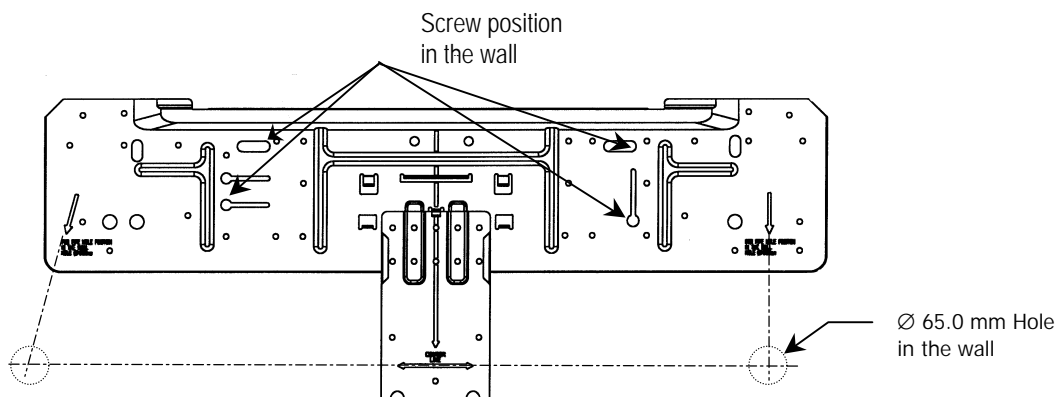
- i) Please check the unit weight for each model. Always ensure that the wall is sufficiently strong to withstand the weight. If not, it is necessary to reinforce the wall with plate, beams or pillars.
- ii) The unit cannot be directly fixed onto the wall or the likes. In all cases, the installation plate provided **MUST** be used.

- Paste the installation plan provided on the desired location on the wall and mark the holes location accordingly.
- Ensure that the minimum maintenance and servicing space at the top, left and right side of the unit is reserved.
- Ensure also the levelness of the installation plate.
- Drill the screw mounting holes (minimum 4 screws are required).
- Drill the pipe hole at the location as per plan. (This is only applicable for rear piping outlet installation).

Note: The hole should be drilled slightly lower at outdoor side as per figure below:-



- Fix the installation plate firmly to wall, without tilting to left or right. Use a plumb line, if available.



- Fixing method:-

WOODEN FRAME WALL	REINFORCED CONCRETE BUILDING	
	NUT ANCHOR	BOLT ANCHOR
<p>WOOD SCREW INSTALLATION PLATE</p>	<p>NUT INSTALLATION PLATE 10mm</p>	<p>BOLT INSTALLATION PLATE</p>

3) Indoor Unit Preparation

- The refrigerant piping can be routed to the unit in 5 direction, by using the cut outs in the unit casing. (See fig. 1)

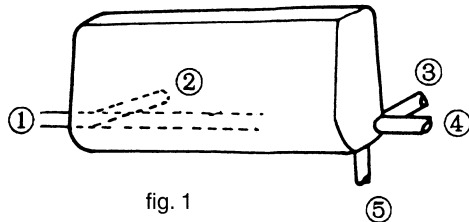


fig. 1

- Carefully bend the pipes to the required position to align with the hole. For right hand and rear side draw out, hold the bottom of the piping and fix direction before shaping it to the desired position (See fig. 2). The condensation drain hose should be taped to the pipes with vinyl tape. The electrical cable can also be taped to the pipes.

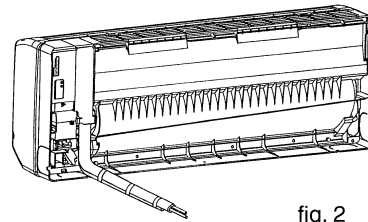
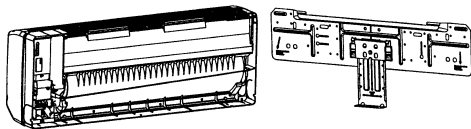


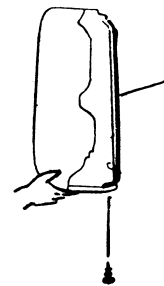
fig. 2

4) Mounting Indoor Unit

Hook the indoor unit onto the upper portion of installation plate. (Engage the 2 hooks of rear top of the indoor unit with the upper edge of the installation plate). Ensure the hooks are properly seated on the installation plate by moving in left and right.



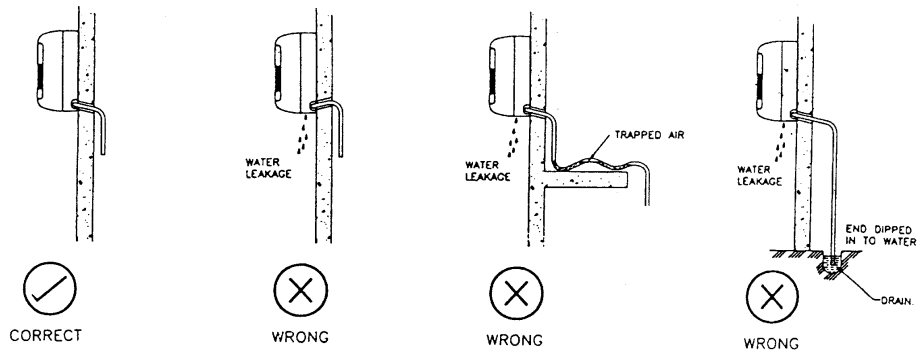
1. Hook the unit into the installation plate.



2. Fix the rivet underneath after completion of installation.

5) Water Drainage Piping

The indoor drain pipe must be downward gradient for smooth drainage. Avoid situation as shown in figure below.



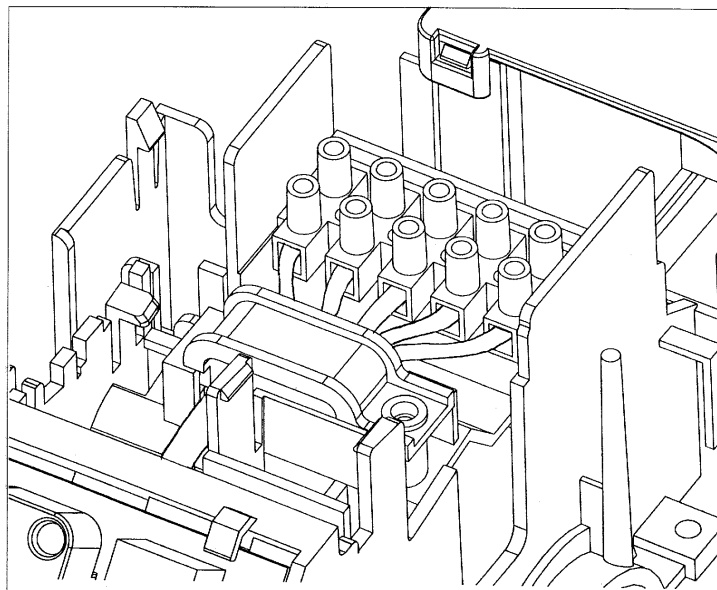
6) Wiring

Electrical Connection

- Wiring regulation on wire diameters differ from country to country. Please refer to your LOCAL ELECTRICAL CODES for field wiring rules. Be sure that installation comply with such rules and regulations.

General Precautions

- Ensure that the rated voltage of the unit corresponds to the name plate before carrying out proper wiring according to the wiring diagram.
- Provide a power outlet to be used exclusively for each unit. A power supply disconnect and a circuit breaker for over-current protection should be provided in the exclusive line.
- The unit must be GROUNDED to prevent possible hazards due to insulation failures.
- All wiring must be firmly connected.
- All wiring must not touch the hot refrigerant piping, compressor or any moving parts of fan motors.
- The field wires from the indoor unit must be clamped on the wire clamp as per shown in the figure.



7) Refrigerant Piping

Maximum Pipe Length And Maximum Number Of Bends

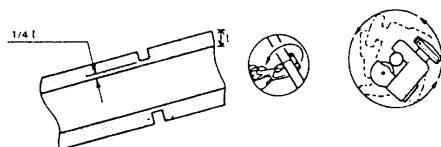
Always choose the shortest path for refrigerant piping and follow the recommendations as tabulated below:

DATA \ MODEL	MWM007F/FR	MWM010F/FR	MWM015F/FR	MWM020F/FR	MWM025F/FR	MWM031F		MWM030FR	
						MLC031B	MLC031C*	MLC030BR	MLC030CR
Max. Length, L (m)	12	12	12	15	15	35	45	35	45
Max. Elevation, H (m)	5	5	5	8	8	15	25	15	25
Max. No. of Bends	10	10	10	10	10	10	10	10	10

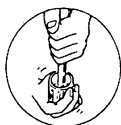
* Need to add external accumulator

Flare Connection

- Cut the pipe stages by stages, advancing the blade of pipe cutter slowly.

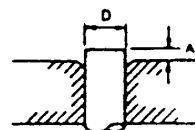


- Remove burr with the burr remover. Hold the flaring end down to prevent burrs from dropping inside pipe.



- The exact length of pipe protruding from the face of the flare die is determined by the flaring tool. The table shows the use of an imperial die and rigid die.

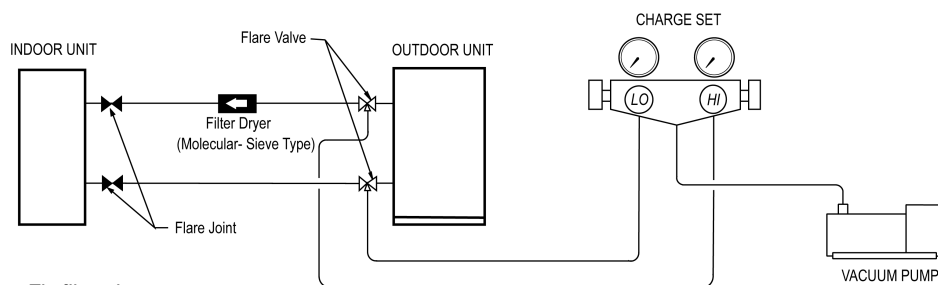
PIPE Ø, D (mm)	A(mm)	
	IMPERIAL DIE	RIGED DIE
6.35 (1/4")	1.3	0.7
9.52 (3/8")	1.6	1.0
12.7 (1/2")	1.9	1.3
15.88 (5/8")	2.2	1.7



Fix the pipe firmly on the flare die. Match the centers of both the flare die and the flaring punch, and tighten flaring punch fully.

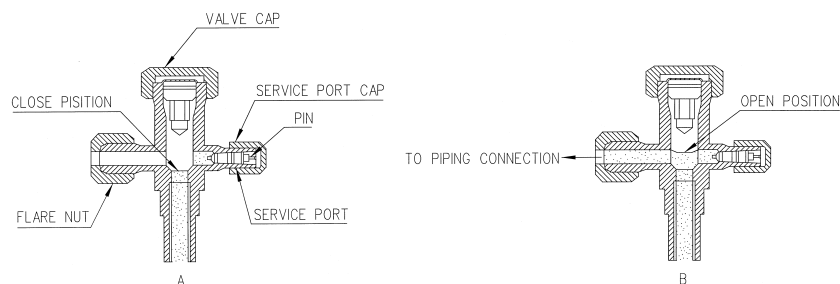
8) Vacuuming And Charging

- The precharged outdoor unit does not need any vacuuming or charging. However once it is connected, the connecting pipe line and the indoor need to be vacuumed before releasing the R22/R407C from the outdoor unit.
 - Open the service port core cap.
 - Connect pressure gauge to the service port.
 - Connect the line to vacuum pump. Open the charging manifold valve and turn the pump on. Vacuum to -0.1 MPa (-760 mmHg) or lower. (Evacuation time varies by the pump but averagely in 1 hour).



Note : R407C – Fix filter dryer
R22 - Nil

4) After evacuation, unscrew the spindle (diagram B) for the gas to run to indoor unit.



5) Decision by low side pressure. Turn compressor on for 10 or 15 min.

	STANDARD CONDITION		HEAVY LOAD CONDITION	
	Indoor 27°C/ Outdoor 35°C		Indoor 32°C/ Outdoor 43°C	
	kg/cm ²	psig	kg/cm ²	psig
MWM 007F/FR	5.2 ~ 6.0	74.0 ~ 85.0	5.7 ~ 6.4	81.0 ~ 92.0
MWM 010F/FR	5.2 ~ 6.0	74.0 ~ 85.0	5.7 ~ 6.4	81.0 ~ 92.0
MWM 015F/FR	4.6 ~ 5.6	65.4 ~ 79.6	5.2 ~ 6.3	74.0 ~ 89.6
MWM 020F/FR	4.6 ~ 5.6	65.4 ~ 79.6	5.2 ~ 6.3	74.0 ~ 89.6
MWM 025F/FR	4.0 ~ 4.8	56.9 ~ 68.3	4.5 ~ 5.0	64.0 ~ 71.1
MWM 031F/030FR	4.0 ~ 4.8	56.9 ~ 68.3	4.5 ~ 5.0	64.0 ~ 71.1

Within the value - refrigerant cycle normal.

Lower than value - refrigerant cycle has some leaks - check, amend and top up is necessary.

Extremely low (≅ zero) - needs evacuation and charge.

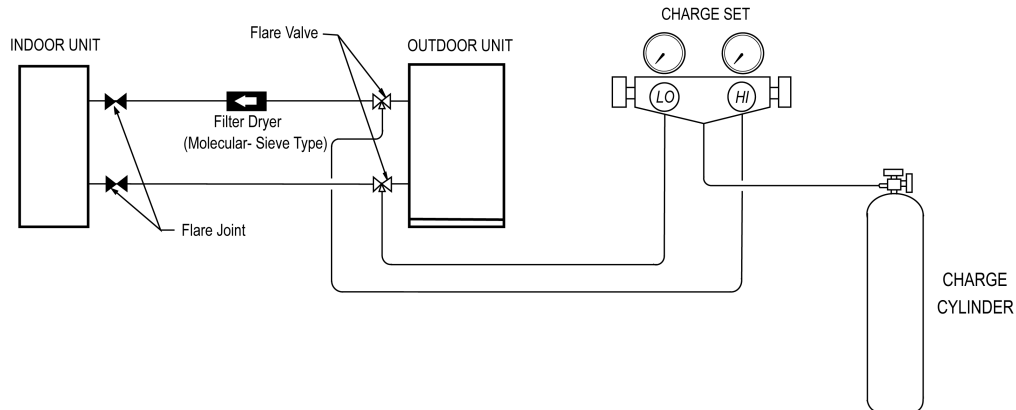
Additional Charge

- The refrigerant gas is charged in the outdoor unit and, if the piping length is 7.6m, additional charge of the refrigerant after vacuuming is not necessary.
- When the piping length is more than 7.6m, please use the table below :

Additional charge in gram.

MODEL	10m	12m	15m	25m	35m
COOLING ONLY					
MWM 007F/010F/015F	35	65	-	-	-
MWM 020F	35	65	110	-	-
MWM 025F	90	165	280	-	-
MWM 031F	90	165	280	650	1030
HEATPUMP					
MWM 007FR/010FR/015FR, MWMV 010FR	50	90	-	-	-
MWM 020FR	60	110	185	-	-
MWM 025FR	120	220	370	-	-
MWM 030FR	120	220	370	870	1370

Diagram shows typical charging method.



Note : R407C – Fix filter dryer
R22 - Nil

CAUTION FOR R407C

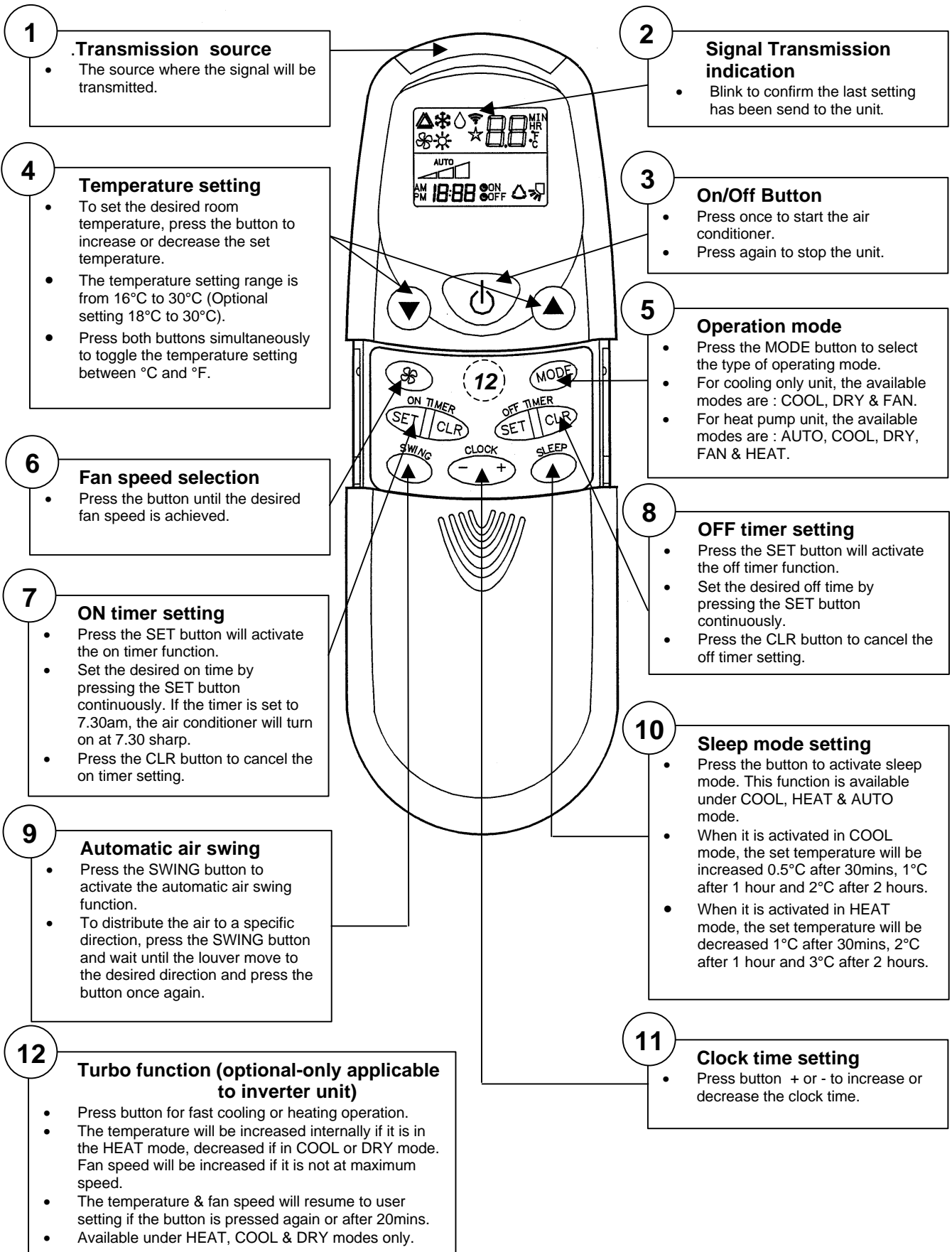
Avoid prolong exposure of an opened compressor, or the internal part of refrigerant piping to moist air. The POE oil in the compressor and piping can absorb moisture from air.

9) Final Checking

- Ensure that steps 1 to 8 are closely followed.
- Ensure the following, in particular :
 - 1) The unit is mounted solidly and rigidly in position.
 - 2) Piping and connections are leak proof after charging.
 - 3) Proper wiring has been done.
- Trial run
 - 1) Conduct a trial run after water drainage test and gas leakage test.
 - 2) Watch out for the following :
 - a) Is the electric plug firmly inserted into the socket?
 - b) Is there any abnormal sound from unit?
 - c) Is there any abnormal vibrations with regard to unit itself or pipings?
 - d) Is there smooth drainage of water?
- Check that :
 - 1) Condenser fan is running, with warm air blowing off the condensing unit.
 - 2) Evaporator blower is running and discharging cool air.
 - 3) Suction (Low side) pressure as per recommended.
 - 4) The remote controller incorporate a 3-minute delay in their circuit. Thus, it requires about 3 minutes upon cut off before the outdoor condensing unit can start up.

Remote Controller Operation Guide

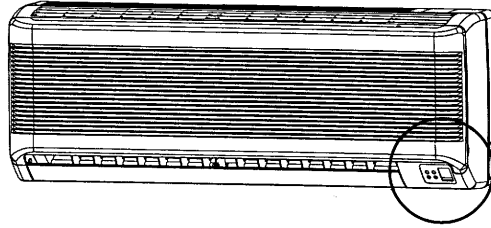
G7 Remote Controller



INDICATOR LIGHTS (cooling only unit)

IR signal receiver





When there is infrared remote control operating signal, the signal receiver on indoor unit will make a (beep) for signal acceptance confirmation.











LED Indicator Lights

The table below shows the LED indicator light for air conditioner unit under normal operation and fault condition. The LED indicator lights are located at the right bottom of the air conditioner unit.

Cooling unit : LED Indicator Lights Display






 Timer	 Power on
 Sleep mode	 Dry mode

LED Indicator Lights : Normal Operation And Faulty Indication Table

 Power	 Sleep	 Timer	 Dry	Operation/ Faulty Indication	Action
○		○		Timer on	-
○	○			Sleep mode on	-
○			○	Dry mode	-
 Continuously			○/●	Frost prevention mode	Clean the filter and switch to high fan
 Once every 2 sec				Room air sensor contact loose/short	Call your dealer
 Twice every 2 Sec				Indoor coil sensor contact loose/short	Call your dealer
 3 times every 2 sec				Outdoor abnormal operation	Call your dealer






○ ON ○/● ON or OFF ● BLINK

Heatpump unit : LED Indicator Lights Display

	Cooling mode (Green)		Dry mode (Orange)	
		Heat/Fan mode (Red/Green)		Sleep mode (Red)

The heat pump units is equipped with an "auto" mode, whereby the unit will provide reasonable room temperature by switching the unit automatically to either "cool" mode or "heat" mode, according to the temperature setting set by the user.

LED Indicator Lights: Normal Operation And Faulty Indication Table

 Cool	 Dry	 Fan	 Heat	 Sleep	Operation/ Faulty Indication	Action
○				○/●	Cooling Mode	-
	○				Dry Mode	-
		○			Fan Mode	-
			○	○/●	Heat Mode	-
●			○	○/●	Auto mode in heating operation	-
○			●	○/●	Auto mode in cooling operation	-
			●		Defrost operation	-
●					Compressor overload protection	Call your dealer
				●	Indoor coil sensor contact loose/short	Call your dealer
	●				Outdoor coil sensor contact loose/short	Call your dealer
		●			Room air sensor contact loose/short	Call your dealer
●	●				If the system is in auto or sleep mode, switch to heat or cool mode and turn off the sleep function, turn off the power supply to reset the system, wait for 3 minutes and on the system again.	
●	●				If the system is in cool or heat mode (with the sleep function off), the sensor may have contact problem, compressor overload protection trip or gas leak.	

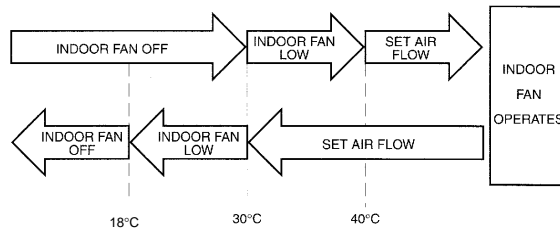
○ ON ○/● ON or OFF ● BLINK

Special Function

(A) 3 Hot System (Heating cycle)

a) Hot start

At the beginning of heating operation (cold start, after defrosting or thermostat resumes operation) the indoor fan operation is controlled in accordance with the temperature of the indoor heat exchanger to send warm air from the start.

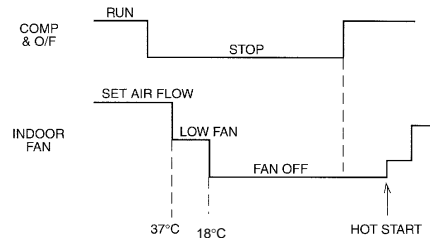


b) Hot keep

After thermostat cut out, the indoor fan operation is controlled in accordance with the indoor heat exchanger temperature to utilize the extra heat and preserve indoor comfort.

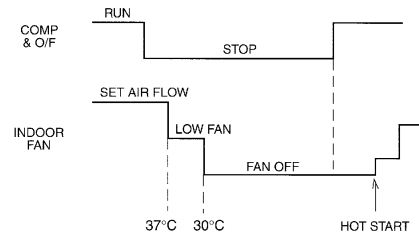
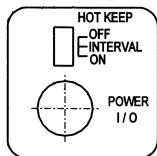
Note 1 : Fan ON

Specification for standard unit.

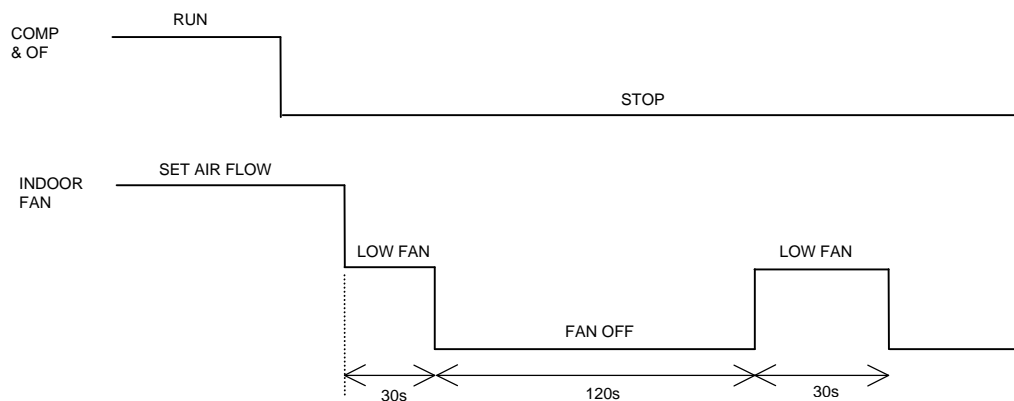


Note 2: Fan OFF

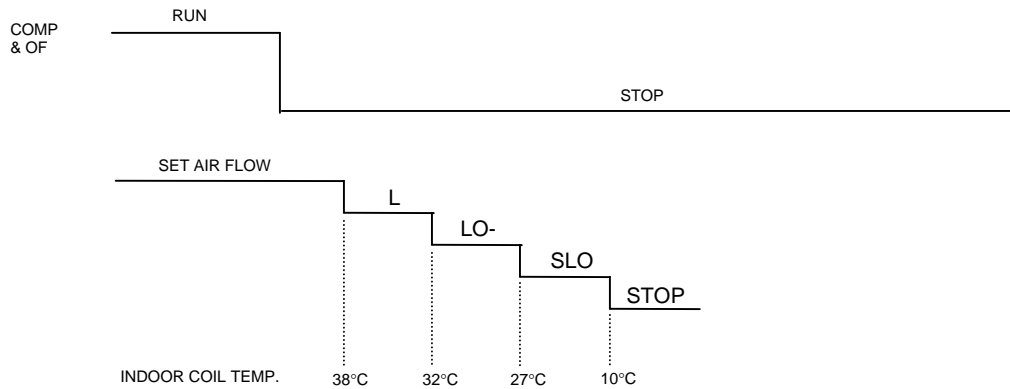
This specification can be done by taking out the shunt jumper cap indicated by 'HOT KEEP' on the front frame panel.



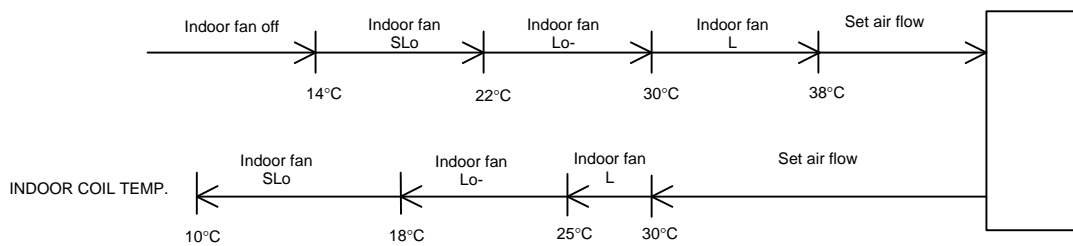
Note 3 : Interval



“Hot Keep” (Inverter only)

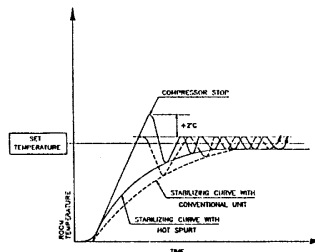


“Hot Start” (Inverter Only)



c) Hot spurt

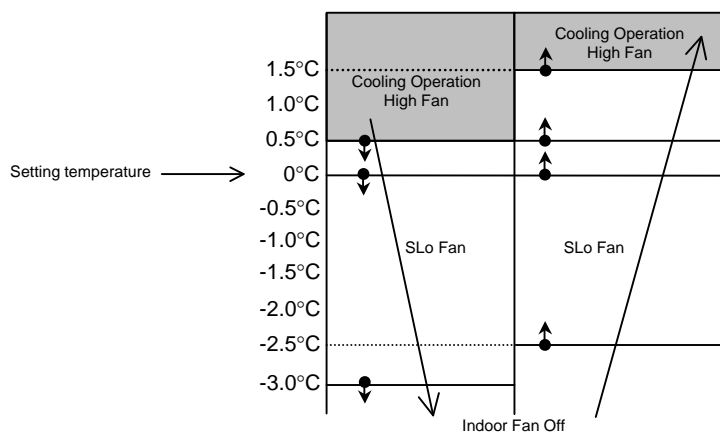
During cold start, the set temperature of controller is increased by 2°C to stabilize the room temperature quickly.



After the first stop of compressor or 30 minutes following the start of operation, the temperature setting will be restored to the original value.

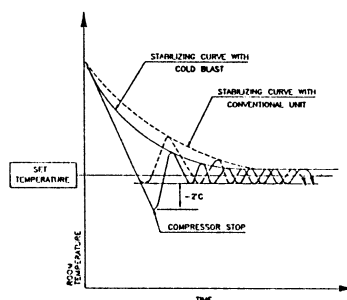
d) Dry operation Indoor Fan Control (Inverter only)

During the Dry operation, the indoor fan operation is controlled in accordance with room temperature.



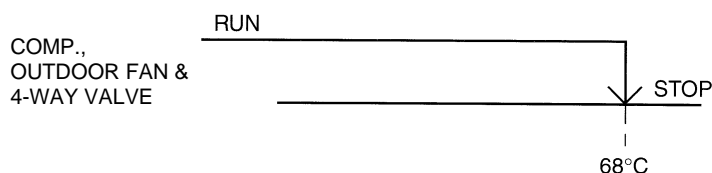
(B) Cold Blast (Cooling cycle)

During cold start, the set temperature of controller is decreased by 2°C to stabilize the room temperature quickly.



(C) Overload Prevention In Heating Operation

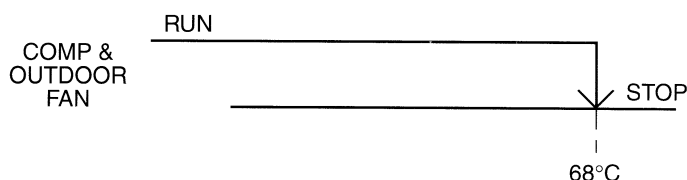
During heating operation, if the room temperature and outdoor temperature are high, or when the indoor air filter is choked, the condensing pressure will increase rapidly. To prevent the burn out of compressor, the M. C. controller will stop the operation of the air conditioner under this condition.



- For manual reset type, the ON / OFF button must be pressed to reset the system.

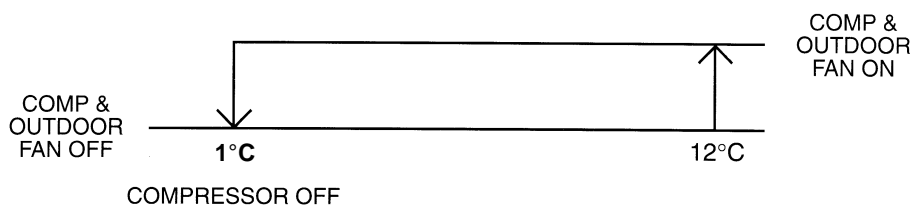
(D) Overload Protection In Cooling Operation

When outdoor and indoor air temperature raise beyond the operation limit, or when the outdoor coil choked with dirt, the M.C. controller detects abnormal increase in condensing temperature. It will stop the operation to prevent compressor burn out.



(E) Frost Prevention And Filter Check

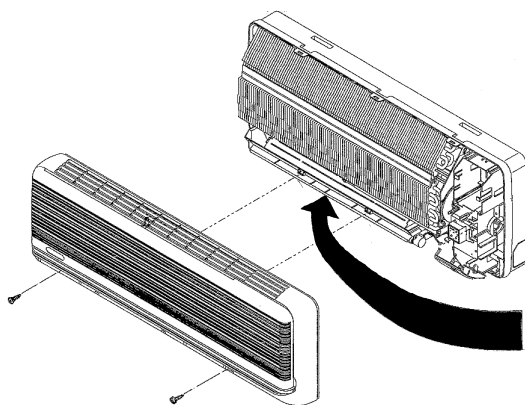
In order to prevent the freezing of indoor coil, the controller will operate as follow.



(F) Auto Random Restart

When power resumed, the unit will automatically restart and operate at the previous setting as before power failure occurred. (Remove jumper at JP1 will cancel the auto random restart function. Please refer to wiring diagram for the location of the JP1).

Servicing And Maintenance



CAUTION:

After installing or servicing the unit, please ensure that the front panel is secured by the 1 hook underneath the front panel.

The unit is designed to give a long life operation with minimum maintenance required. However, it should be regularly checked and the following items should be given due attention.

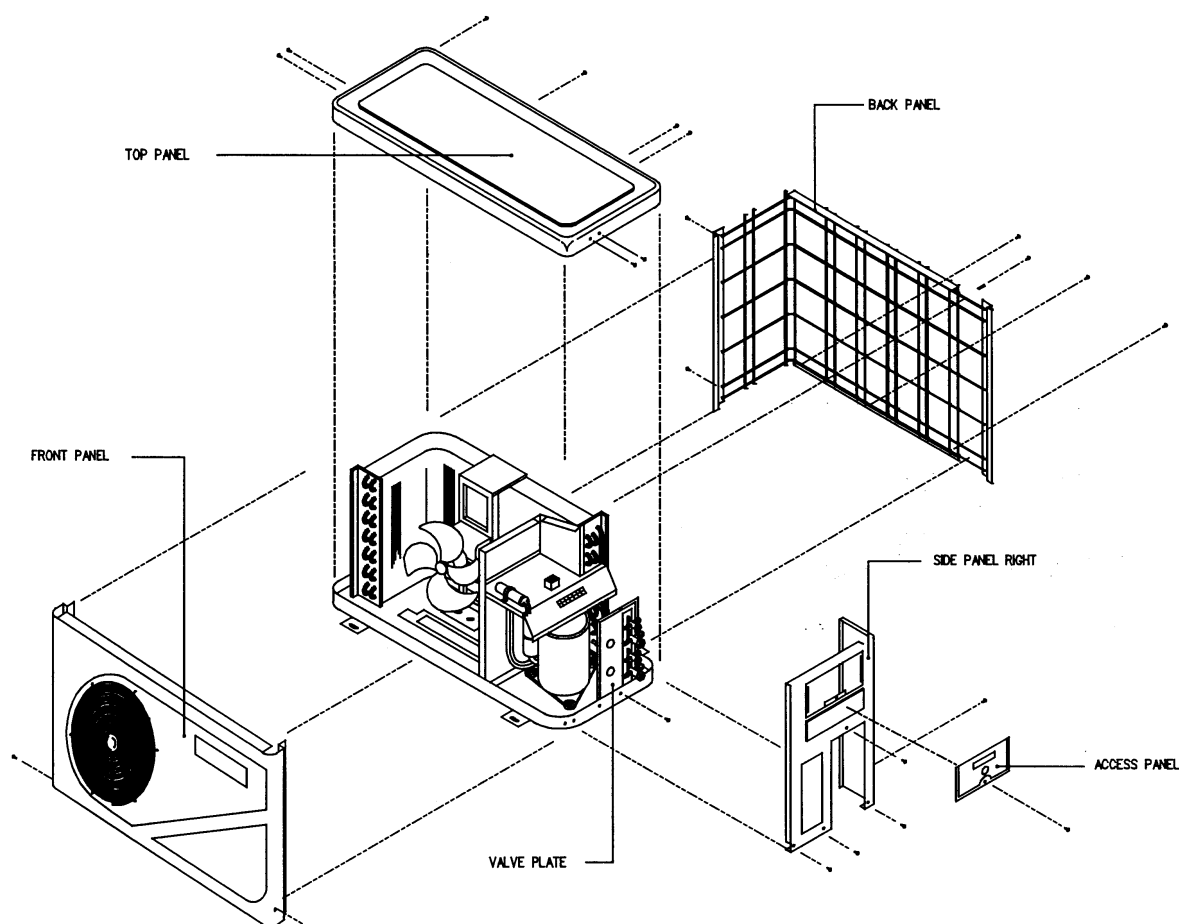
Components	Maintenance Procedure	Recommended Schedule
Air Filters	<ol style="list-style-type: none"> 1. Clean with a vacuum cleaner, or by tapping lightly and then washing in lukewarm water (below 40°C) with neutral soap. 2. Rinse well to dry before re-installing. 3. Note: Never use petrol, thinner, benzene or any other chemicals. 	Every 2 weeks. More frequently if required.
Indoor Unit	<ol style="list-style-type: none"> 1. Clean away dirt or dust on grille or panel by wiping with a soft cloth soaked in lukewarm (or cold) water or neutral detergent solution. Note: Never use petrol, thinner, benzene or other volatile chemicals, which may cause plastic surface to deform. 	Every 2 weeks More frequently if required.
Condensate Drain Pan and Pipe	<ol style="list-style-type: none"> 1. Check and clean. 	Every 3 months.
Indoor Fan	<ol style="list-style-type: none"> 1. Check for unusual noise. 	As necessary.
Indoor/Outdoor Coil	<ol style="list-style-type: none"> 1. Check and remove dirt which are clogged between fins. 2. Check and remove obstacles which hinder air flow in and out of indoor/outdoor unit. 	Every month. Every month.
Electrical	<ol style="list-style-type: none"> 1. Check voltage, current and wiring. 2. Check faulty contacts caused by loose connections, foreign matters, etc. 	Every 2 months. Every 2 months.
Compressor	<ol style="list-style-type: none"> 1. No maintenance needed if refrigerant circuit remains sealed. However, check for refrigerant leak at joints and fittings. 	Every 6 months.
Compressor Lubrication	<ol style="list-style-type: none"> 1. Oil is factory charged. Not necessary to add oil if circuit remains sealed. 	No maintenance required.
Fan Motors Lubrication	<ol style="list-style-type: none"> 1. All motors pre-lubricated and sealed at factory. 	No maintenance required.

Pre-start up maintenance

(After extended shutdown)

- Inspect thoroughly and clean indoor and outdoor units.
- Clean or replace air filters.
- Clean condensate drain line.
- Clean clogged indoor and outdoor coils.
- Check fan imbalance before operation.
- Tighten all wiring connections and panels.
- Check for refrigerant leakage.

The design of the MLC outdoor series allows servicing to be carried out readily and easily. The removal of the top side, front and back panel make almost every part accessible.



Under normal circumstances, these outdoor units only require a check and cleaning of air intake coil surface once quarterly. However, if a unit is installed in areas subjected to much oil mist and dust, the coils must be regularly cleaned by qualified Air Conditioner Service Technicians to ensure sufficient heat exchange and proper operation. Otherwise, the systems life span may be shortened.

CAUTION!

Do not charge OXYGEN, ACETYLENE OR OTHER FLAMMABLE and poisonous gases into the unit when performing a leakage test or an airtight test. These gases could cause severe explosion and damage if exposed to high temperature and pressure.

It is recommended that only nitrogen or refrigerant be charged when performing the leakage or airtight test.

Troubleshooting

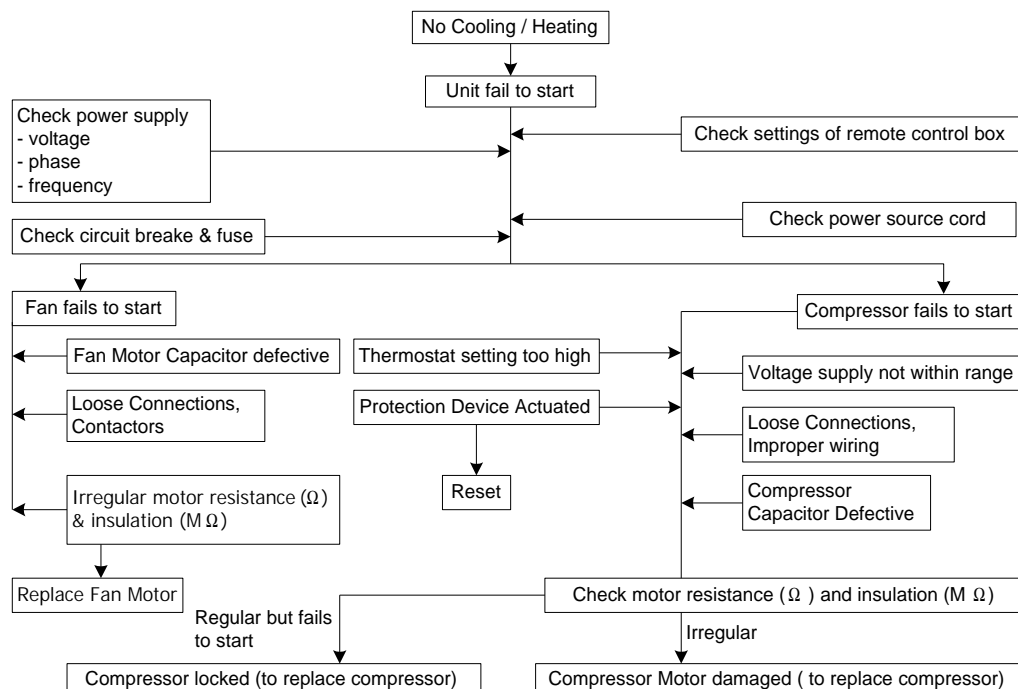
By means of pressure readings :

PRESSURE						PROBABLE CAUSE
Data Circuit	Too Low	A Little Low	Normal	A Little High	Too High	
High Side Low Side					● ●	1. Overcharged with refrigerant. 2. Non-condensable gases in refrigerant circuit (e.g. oil). 3. Obstructed air-intake/discharge. 4. Short circuiting of hot air at condensing unit.
High Side Low Side	●				●	1. Poor compression/no compression (compressor defective.) 2. Check valve stick in open position. 3. Reversing valve leaking.
High Side Low Side	●	●				1. Undercharged with refrigerant. 2. Refrigerant leakage. 3. Air filter clogged/dirty (indoor unit). 4. Indoor fan locked (cooling). 5. Defective defrost control, outdoor coil freezed up (heating). 6. Outdoor fan locked (heating).
High Side Low Side				●	●	1. Outdoor fan blocked (cooling). 2. Outdoor coil dirty (cooling). 3. Indoor fan locked (heating). 4. Indoor filter clogged/dirty (heating). 5. Non-condensable gases in refrigerant circuit (e.g. air).
High Side Low Side				●	●	1. Air intake temperature of indoor unit too high.

By means of diagnosis flow chart

Generally, there are two kinds of troubles, i.e. starting failure and insufficient cooling/heating. "Starting Failure" is caused by electrical defect while "Insufficient Cooling/Heating" is caused by improper application or defects in refrigerant circuit.

1. Diagnosis of electric circuit

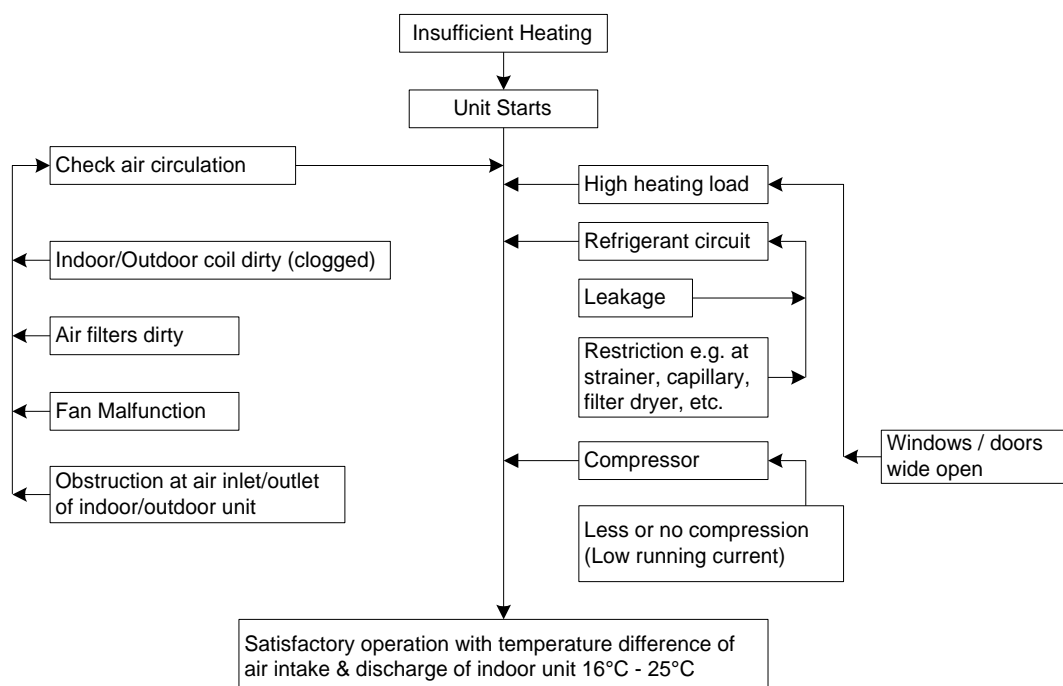
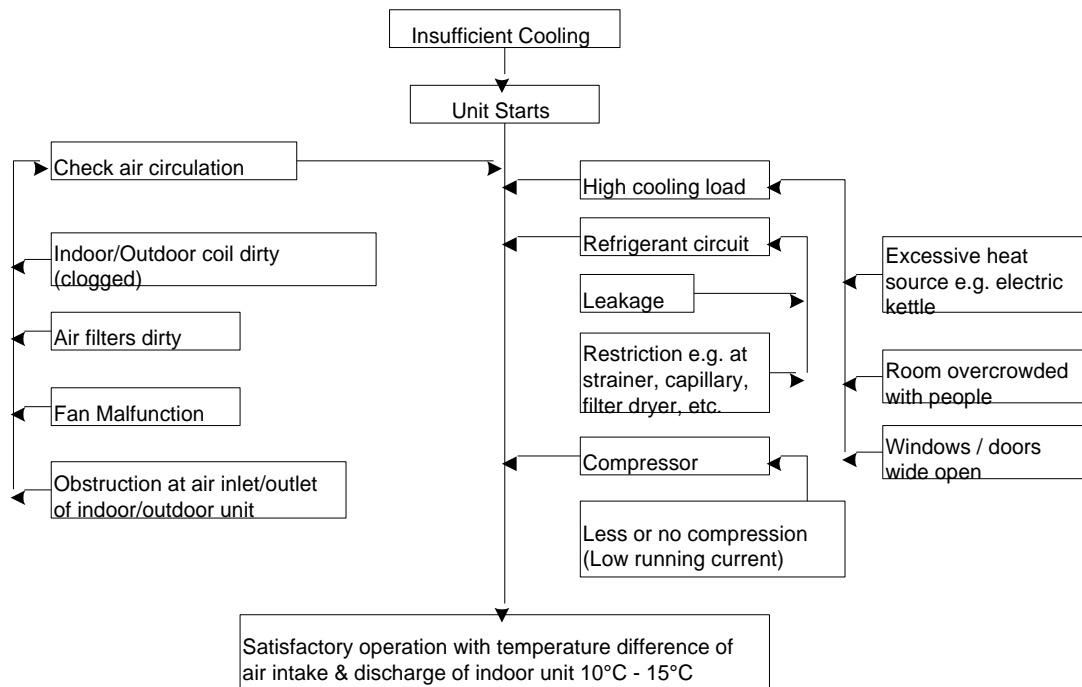


The most common causes of air conditioner failure to "start" are :

- a) Voltage not within +/- 10% of rated voltage.
- b) Power supply interrupted.
- c) Control settings improper
- d) Air Conditioner is disconnected from main power source.
- e) Fuse blown or circuit breaker off.

ii) Diagnosis Of Refrigerant Circuit /Application

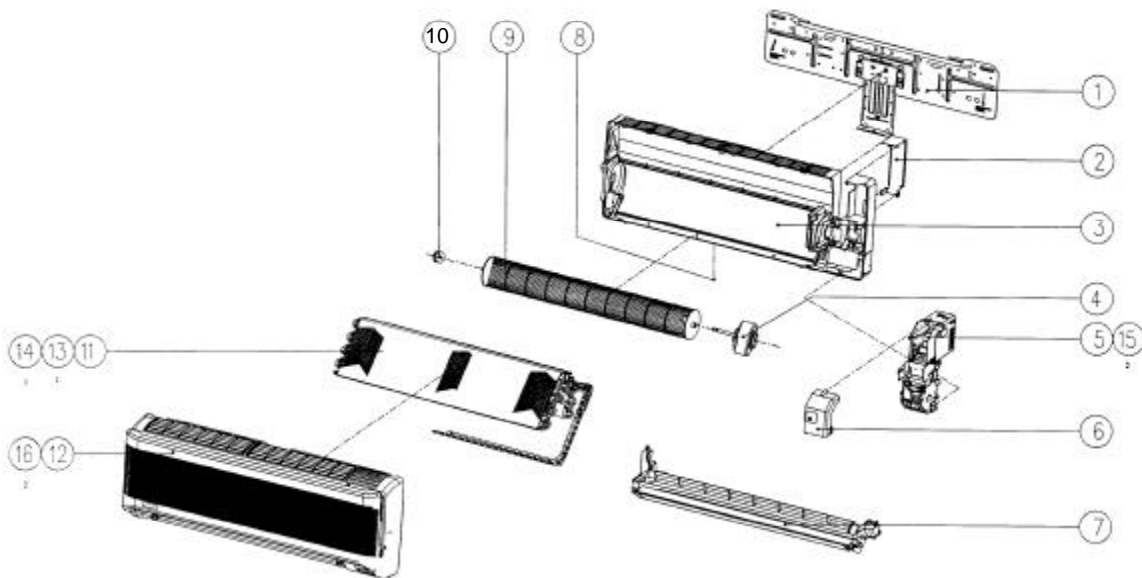
There might be some cases where the unit starts running but does not perform satisfactory, i.e. insufficient cooling. Judgement could be made by measuring temperature difference of indoor unit's intake and discharge air as well as running current.



Parts List

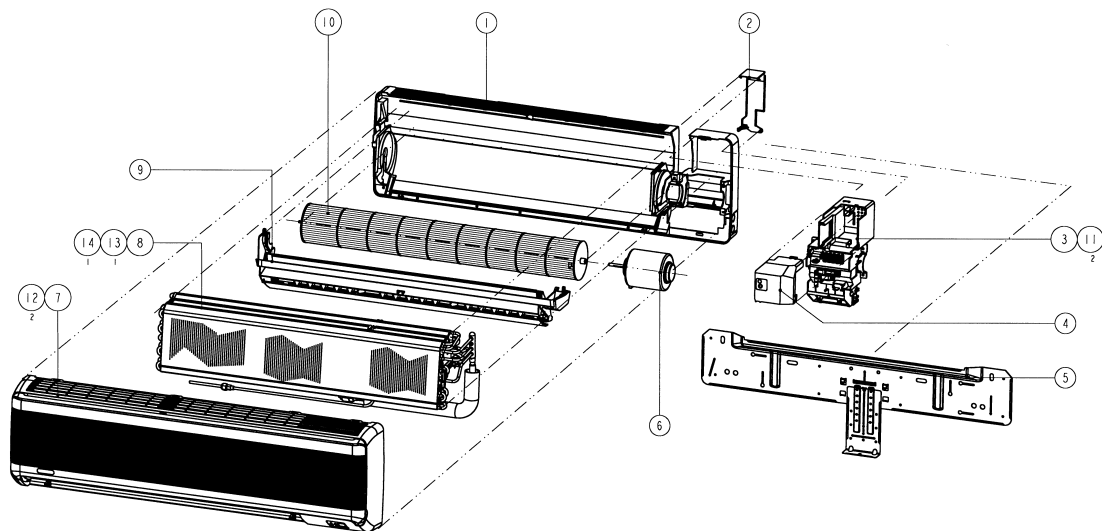
Indoor Unit

Model: MWM 007F / 007FR / 010F / 010FR / 015F / 015FR
MWMV 010FR



- | | |
|--------------------------------|------------------------------------|
| 1. ASSY. MOUNTING PLATE | 10. BUSH, FAN |
| 2. CLAMP. PIPING | 11. ASSY. EVAPORATOR COIL |
| 3. ASSY. CHASIS | 12. ASSY. FRONT FRAME A |
| 4. ASSY. FAN MOTOR | 13. WASHER, INT TEETH STAR |
| 5. ASSY. CONTROL BOX | 14. SCREW, PAN HEAD MACHINED |
| 6. ASSY. COVER CONTROL BOX | 15. SCREW, SELF TAPPING ROUND HEAD |
| 7. ASSY. AIR DISCHARGE HOUSING | 16. SCREW, SELF TAPPING PAN HEAD |
| 8. RIVET | |
| 9. FAN, CROSS FLOW | |

Model : MWM 020F / 020FR / 025F / 025FR / 031F/ 030FR



1. ASSY. CHASIS

2. PIPING, CLAMP

3. ASSY. CONTROL BOX

4. ASSY. CONTROL BOX COVER

5. ASSY. MOUNTING PLATE

6. ASSY. FAN MOTOR

7. ASSY. FRONT COVER

8. ASSY. EVAPORATOR COIL

9. ASSY. AIR DISCHARGE HOUSING

10. CROSS FLOW FAN

11. SCREW, SELF TAPPING ROUND HEAD

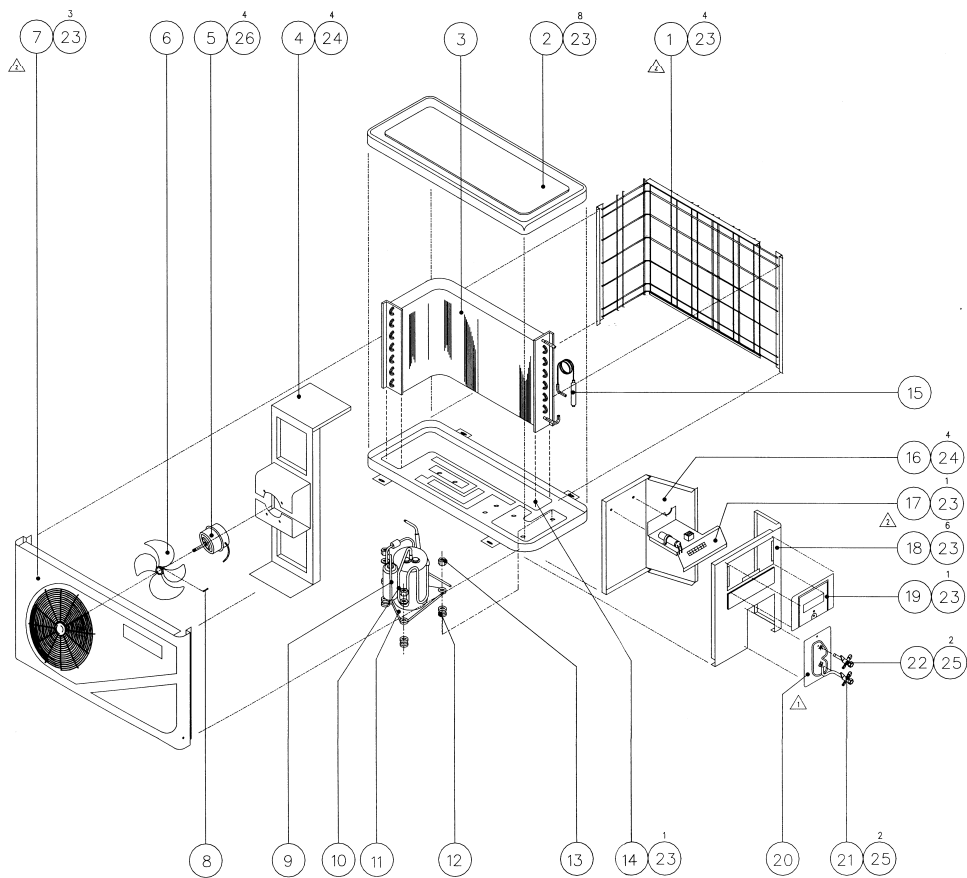
12. SCREW, SELF TAPPING PAN HEAD

13. WASHER, INT. TEETH STAR

14. SCREW, PAN HEAD MACHINED

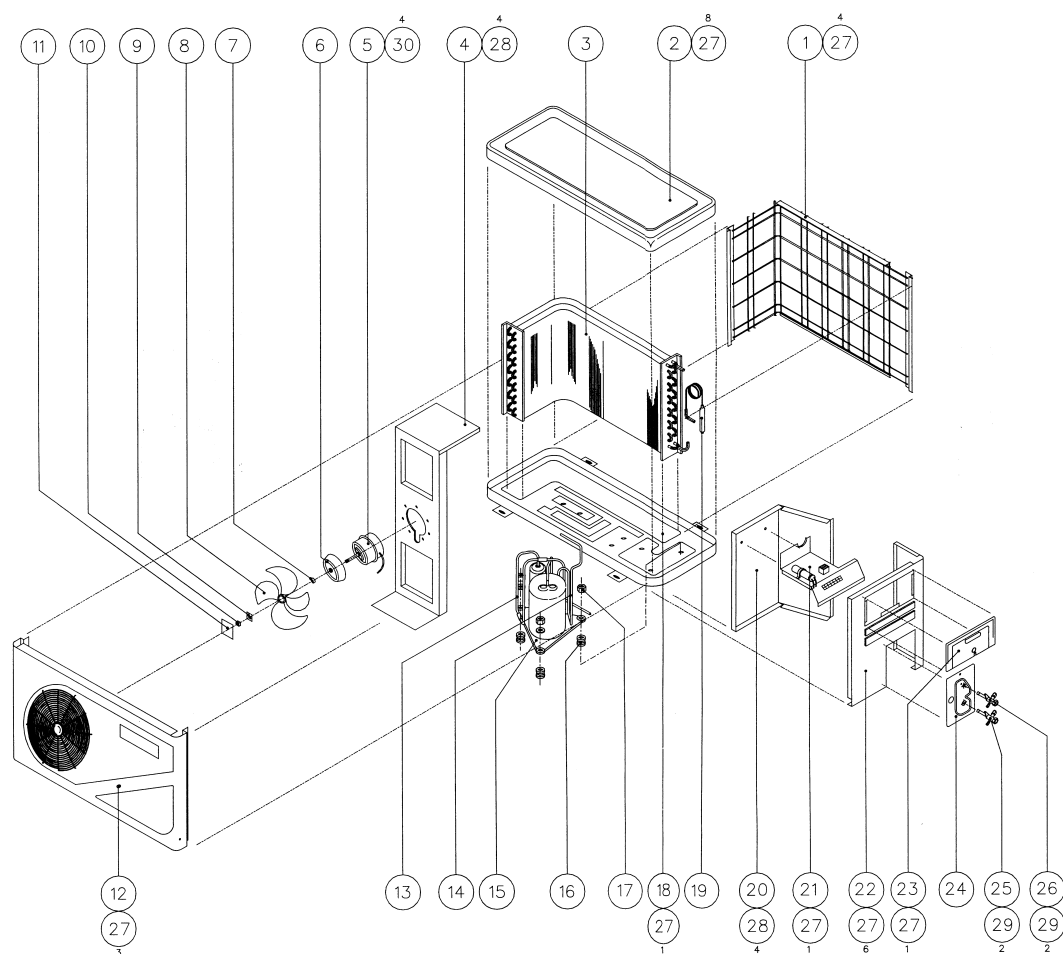
Outdoor Unit

Model: MLC 007B / 010B / 015B
M4LC 007B / 010B / 015B



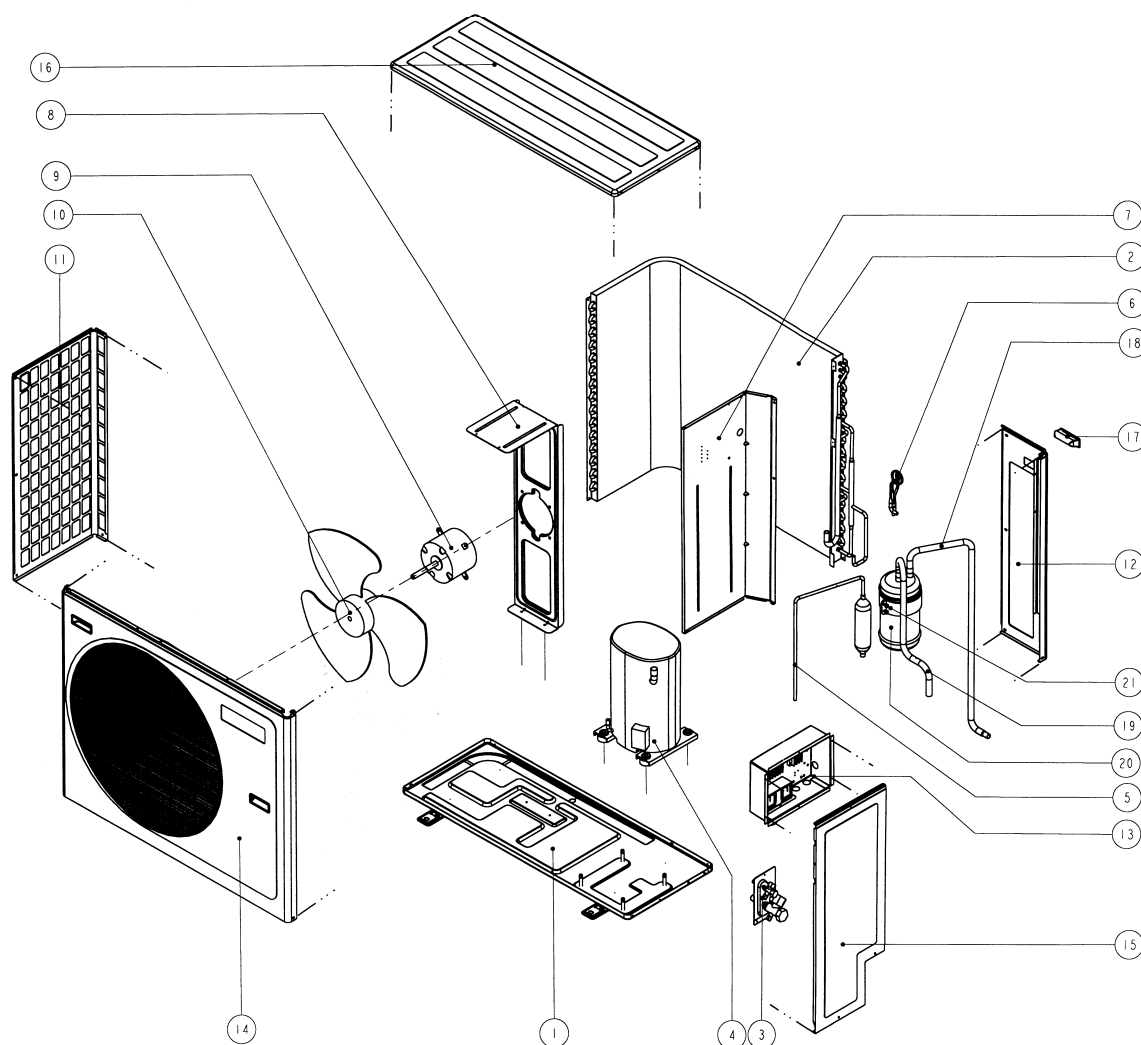
- | | |
|----------------------------|-------------------------------------|
| 1. ASSY., BACK PANEL | 14. ASSY., BASE PAN |
| 2. ASSY., TOP PANEL | 15. ASSY., CAPILLARY TUBE |
| 3. ASSY., CONDENSER COIL | 16. ASSY., PARTITION |
| 4. BRACKET, MOTOR MOUNTING | 17. ASSY., TERMINAL PANEL W/O CONT. |
| 5. FAN MOTOR | 18. ASSY., SIDE PANEL |
| 6. FAN, 14" | 19. PANEL, ACCESS |
| 7. ASSY., FRONT PANEL | 20. PLATE, FLARE VALVE |
| 8. SCREW, FAN SET | 21. VALVE, SUCTION |
| 9. TUBE, SUCTION | 22. VALVE, LIQUID |
| 10. TUBE, DISCHARGE | 23. SCREW, TRUSS HEAD PHILIP |
| 11. ROTARY COMPRESSOR | 24. SCREW, PAN HEAD TAPPING |
| 12. GROMMET, RUBBER | 25. SCREW, ROUND HEAD PHILIP |
| 13. NUT, WITH WASHER | 26. SCREW, TRUSS HEAD PHILIP |

**Model: MLC 020B / 025B / 031B
M4LC 020B / 025B**



- | | |
|----------------------------|---|
| 1. ASSY., BACK PANEL | 16. GROMMET, RUBBER |
| 2. ASSY., TOP PANEL | 17. NUT, WITH WASHER |
| 3. ASSY., CONDENSOR COIL | 18. ASSY., BASE PAN |
| 4. BRACKET, MOTOR MOUNTING | 19. ASSY., CAPILLARY TUBE |
| 5. MOTOR, FAN | 20. ASSY., PARTITION |
| 6. FLINGER | 21. ASSY., TERMINAL BOX PANEL W/O CONT. |
| 7. WASHER, RING | 22. ASSY., SIDE PANEL |
| 8. FAN, 16" | 23. ASSY., ACCESS PANEL |
| 9. WASHER, SQUARE | 24. PLATE, FLARE VALVE |
| 10. HEX. NUT | 25. VALVE, SUCTION |
| 11. LABEL, BLACK | 26. VALVE, LIQUID |
| 12. ASSY., PANEL FRONT | 27. SCREW, TRUSS HEAD PHILIP |
| 13. ASSY., SUCTION TUBE | 28. SCREW, PAN HEAD PHILIP |
| 14. ASSY., DISCHARGE TUBE | 29. SCREW, ROUND HEAD PHILIP |
| 15. ROTARY COMPRESSOR | 30. SCREW, TRUSS HEAD PHILIP |

Model: MLC / M4LC 031C



1. ASSY., BASE PAN

2. ASSY., COIL

3. ASSY., VAVLE PLATE

4. ASSY., COMPRESSOR

5. ASSY., TUBE DISCHARGE

6. ASSY., CAPILLARY TUBE

7. ASSY., PARTITION

8. BRACKET, MOTOR

9. MOTOR

10. FAN, 24"

11. PANEL, SIDE LEFT

12. PANEL, BACK RIGHT

13. ASSY., TERMINAL BOARD

14. ASSY., FRONT PANEL

15. PANEL, SERVICE

16. PANEL, TOP

17. HANDLE

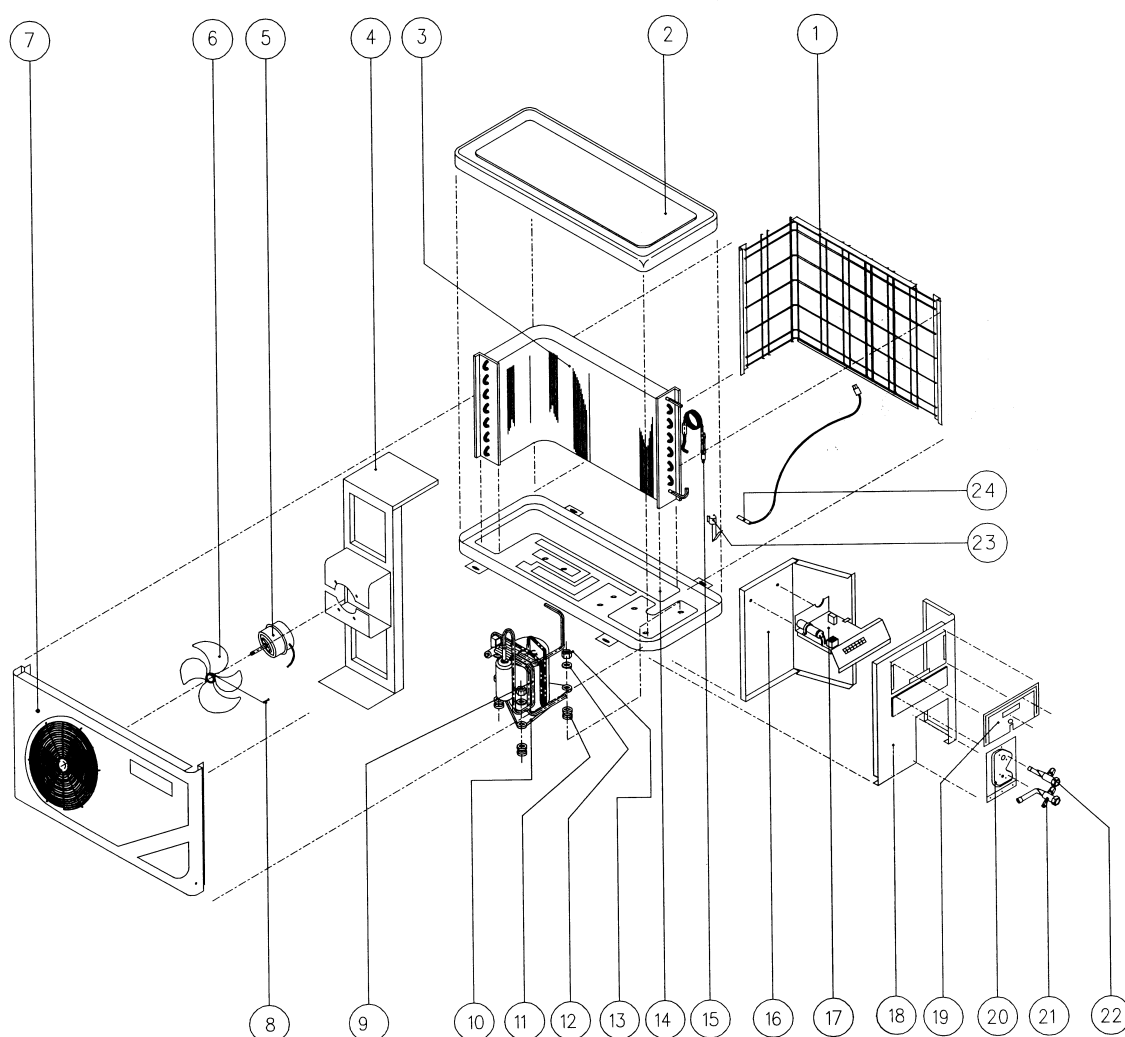
18. TUBE, ACC. TO OUTLET VALVE

19. TUBE, COMP. SUCTION TO ACC

20. ACCUMULATOR

21. ASSY., ACCUMULATOR CLIP

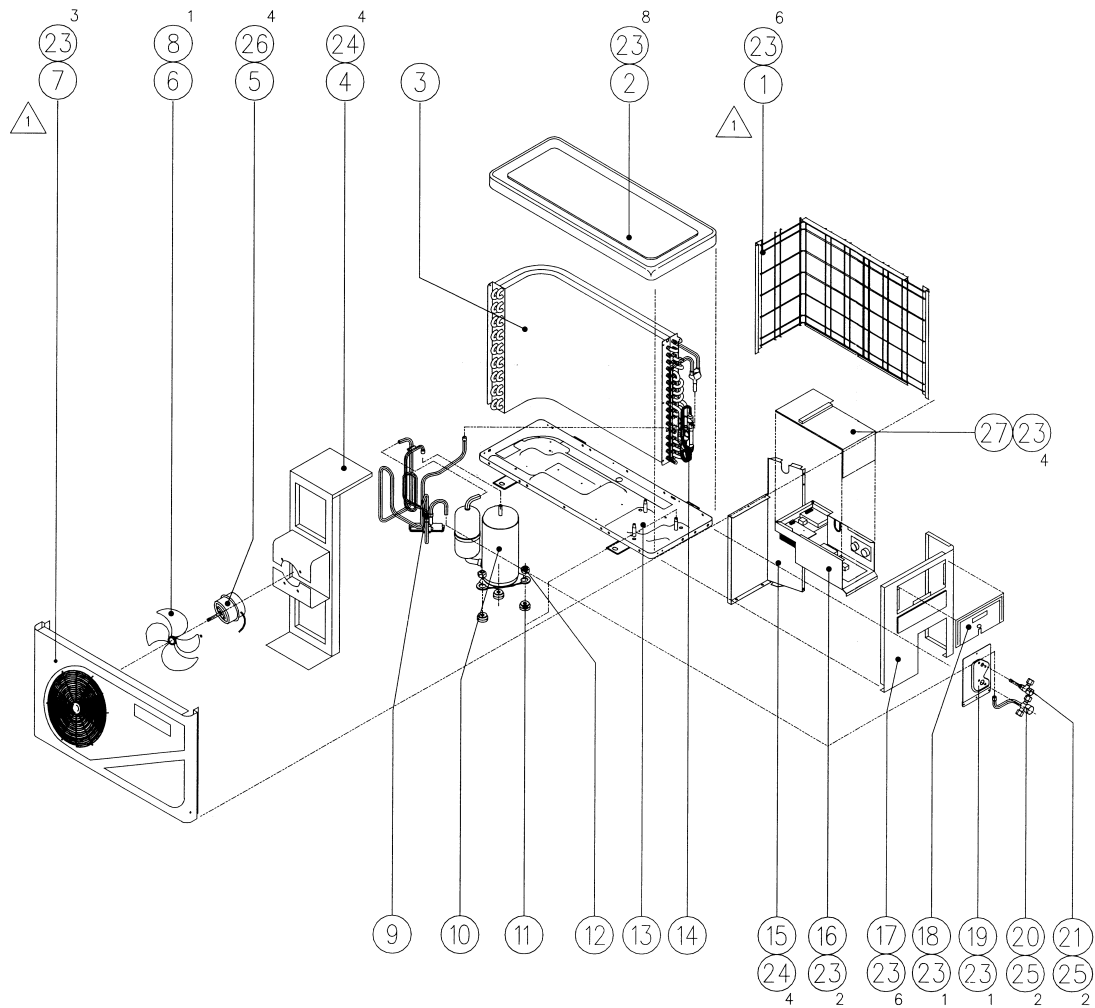
Model: MLC 007BR / 010BR / 015BR
M4LC 007BR / 010BR / 015BR



1. ASSY., BACK PANEL
2. ASSY., TOP PANEL
3. ASSY, COIL OUTDOOR
4. BRACKET, MOTOR MOUNTING
5. FAN MOTOR
6. FAN, 14"
7. ASSY., PANEL FRONT
8. SCREW, FAN SET
9. ASSY., 4 WAY VALVE
10. ROTARY COMPRESSOR
11. RUBBER, GROMMET
12. WASHER, FLAT

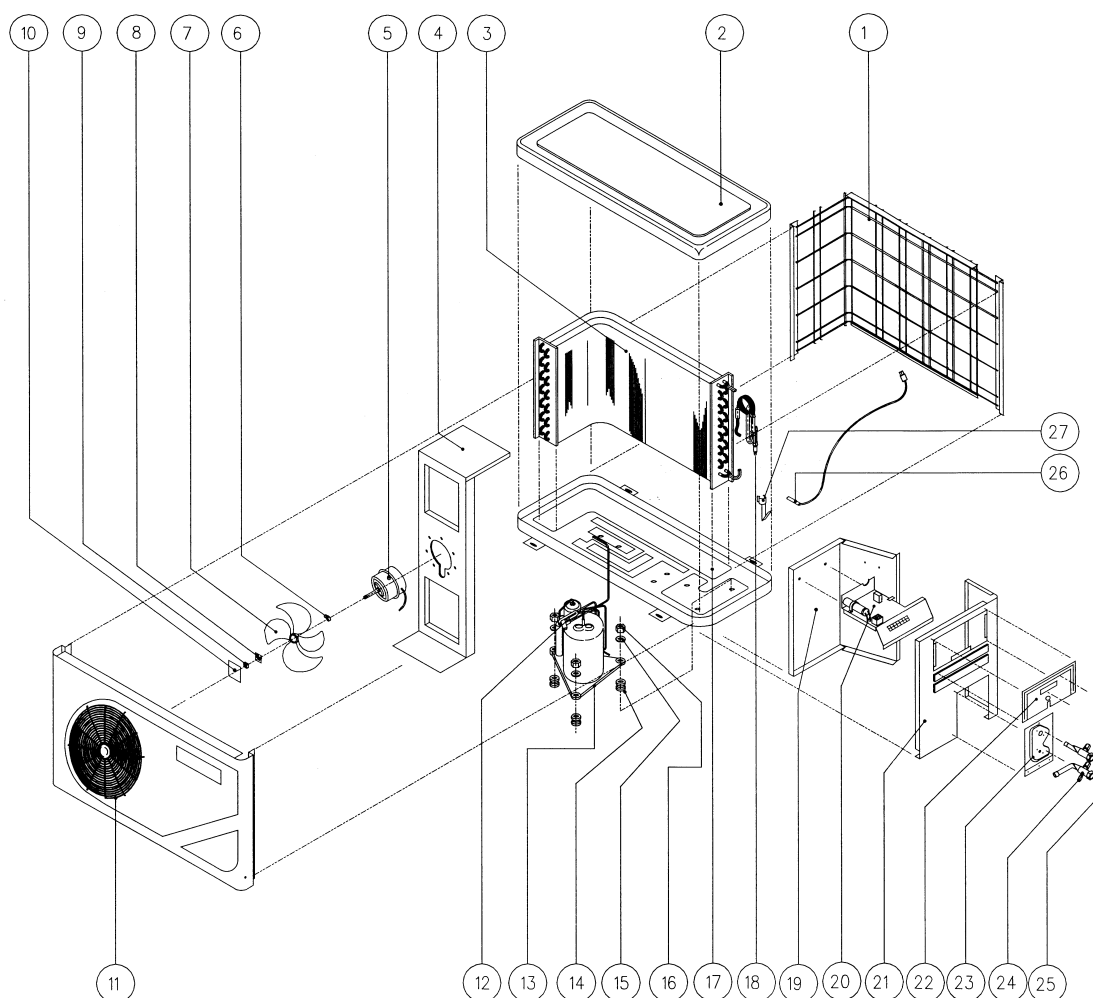
13. NUT, COMPRESSOR
14. ASSY., BASE PAN
15. ASSY., CAPILLARY TUBE
16. ASSY., PARTITION
17. ASSY., TERMINAL BOX PANEL
18. ASSY., SIDE PANEL
19. ASSY., ACCESS PANEL
20. PLATE, FLARE JOINT VALVE
21. VALVE, SUCTION
22. VALVE, LIQUID
23. CLIP, COIL SENSOR
24. SENSOR, OUTDOOR DEFROST

Model: MLCV 010BR



- | | |
|--|-----------------------------------|
| 1. ASSY., BACK PANEL | 15. ASSY., PARTITION |
| 2. PANEL, TOP | 16. ASSY., CONTROL BOX |
| 3. ASSY, COIL OUTDOOR | 17. ASSY., SIDE PANEL |
| 4. BRACKET, MOTOR MOUNTING | 18. ASSY., ACCESS PANEL |
| 5. FAN MOTOR | 19. PLATE, FLARE JOINT VALVE |
| 6. FAN, 14" | 20. VALVE, SUCTION |
| 7. ASSY., PANEL FRONT | 21. VALVE, LIQUID |
| 8. NUT, M6 | 22. CLIP, COIL SENSOR |
| 9. ASSY., 4 WAY VALVE | 23. SCREW, TRUSS HEAD TAPPING |
| 10. ROTARY COMPRESSOR | 24. SCREW, TAPPING |
| 11. RUBBER, GROMMET | 25. SCREW, MACHINE M6 x 15 |
| 12. NUT, COMPRESSOR (M8) (WITH WASHER) | 26. SCREW, TRUSS HEAD PHILIP |
| 13. ASSY., BASE PAN | 27. ASSY., CONTROL BOX COVER INS. |
| 14. ASSY., CAPILLARY TUBE | |

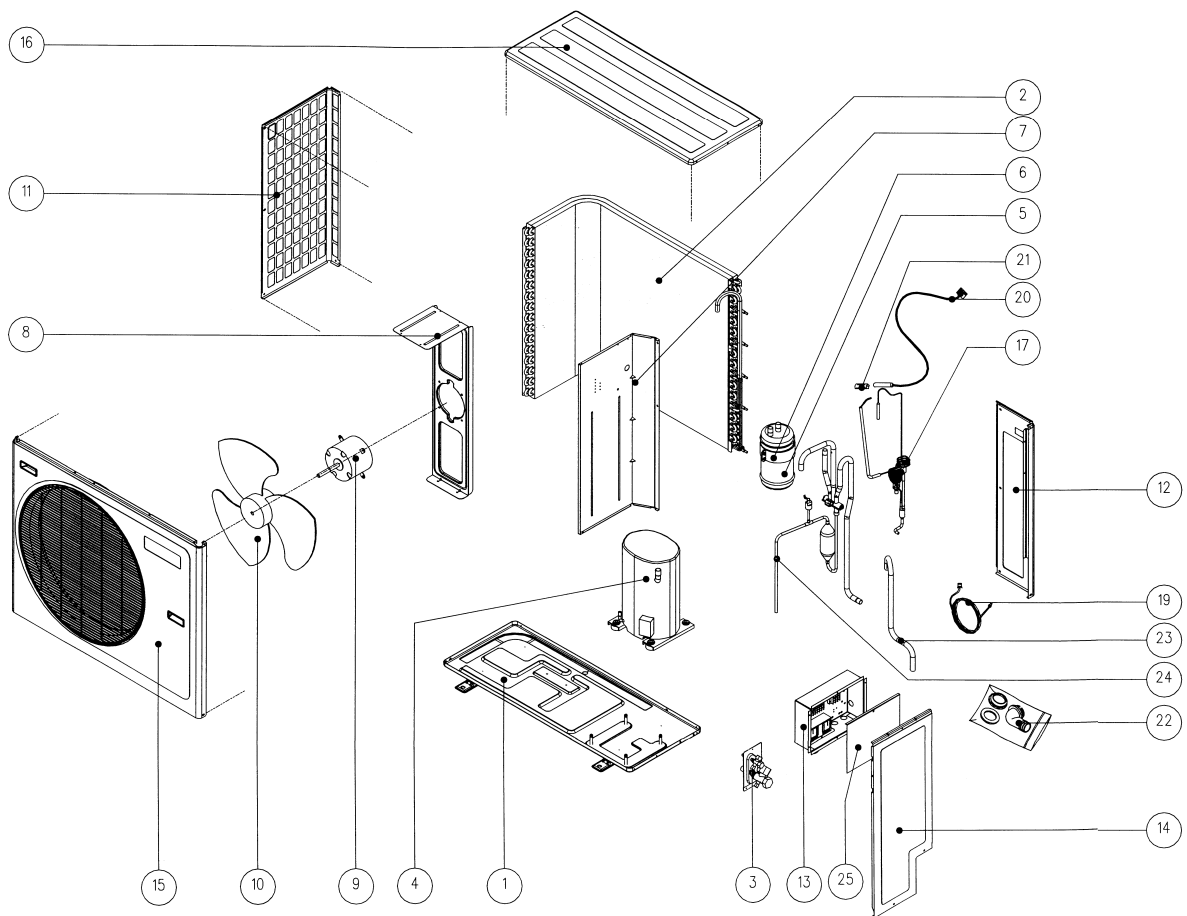
**Model: MLC 020BR / 025BR / 030BR
M4LC 020BR / 025BR**



1. ASSY., BACK PANEL
2. ASSY., TOP PANEL
3. ASSY, COIL OUTDOOR
4. BRACKET, MOTOR MOUNTING
5. FAN MOTOR
6. WASHER, RING
7. FAN, 16"
8. WASHER, SQUARE
9. NUT, HEX 3/8"
10. BLACK LABEL
11. ASSY., PANEL FRONT
12. ASSY., 4 WAY VALVE
13. ROTARY COMPRESSOR
14. RUBBER, GROMMET

15. WASHER, FLAT
16. NUT, COMPRESSOR
17. ASSY., BASE PAN
18. ASSY., CAPILLARY TUBE
19. ASSY., PARTITION
20. ASSY., TERMINAL BOX PANEL
21. ASSY. SIDE PANEL
22. ASSY., ACCESS PANEL
23. PLATE, FLARE JOINT VALVE
24. VALVE, SUCTION
25. VALVE, LIQUID
26. SENSOR, OUTDOOR DEFROST
27. CLIP, COIL SENSOR

Model: MLC / M4LC 030CR



1. ASSY., BASE PAN

2. ASSY., COIL

3. ASSY., VAVLE PLATE

4. ASSY., COMPRESSOR

5. ACCUMULATOR

6. ASSY., ACCUMULATOR CLIP

7. ASSY., PARTITION

8. BRACKET, MOTOR

9. MOTOR

10. FAN, 24"

11. PANEL, SIDE LEFT

12. PANEL, BACK RIGHT

13. ASSY., TERMINAL BOARD

14. PANEL, SERVICE

15. ASSY., FRONT PANEL

16. PANEL, TOP

17. ASSY., TXV

18. COVER TERMINAL BOARD

19. WIRE, EXT. (8m)

20. DEFROST THERMISTOR

21. CLIP, COIL SENSOR

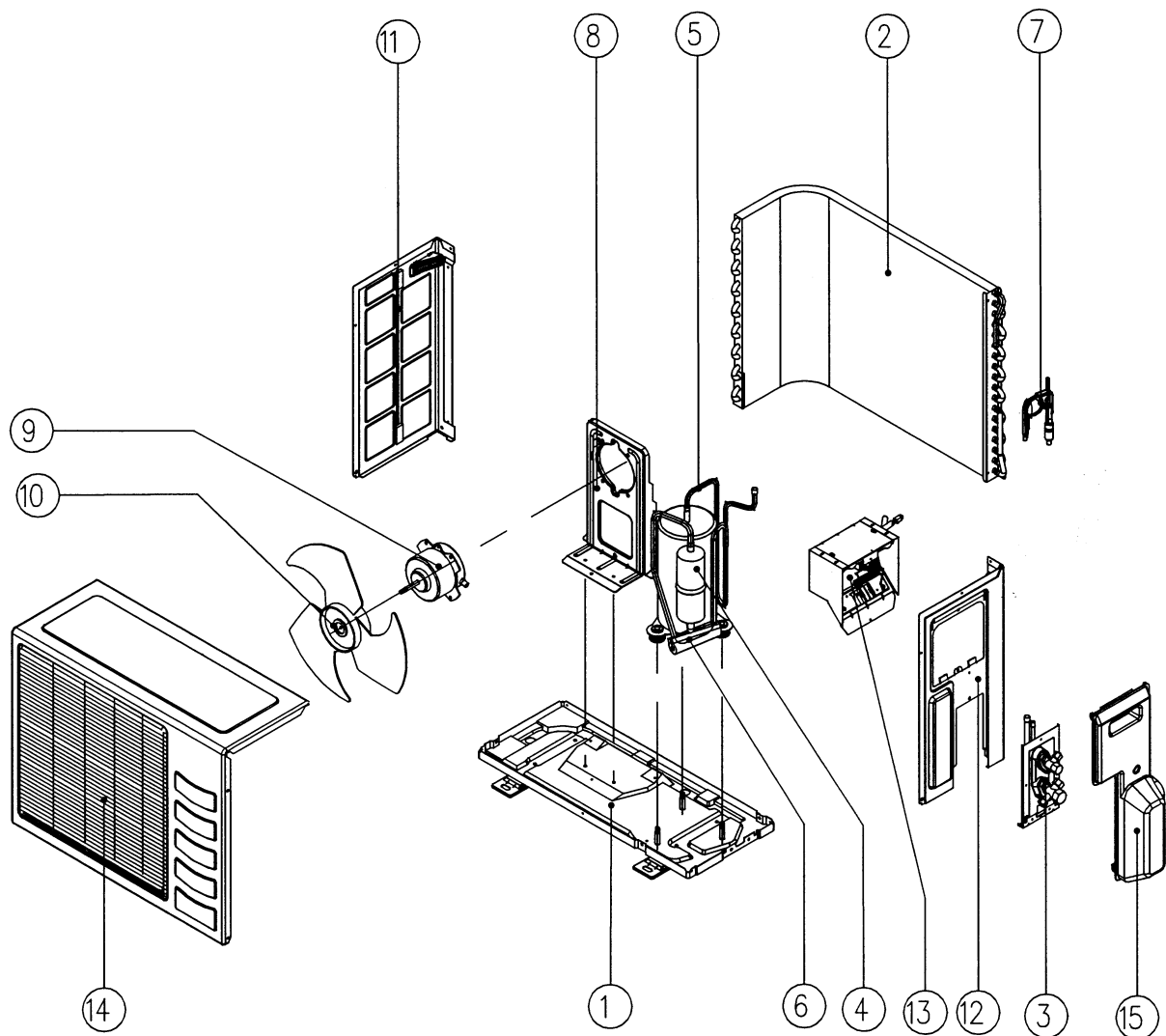
22. ASSY., DRAIN ELBOW PACKAGE

23. TUBE, COMP. SUCTION

24. ASSY., 4 WAYS VALVE

25. COVER, TERMINAL BOARD

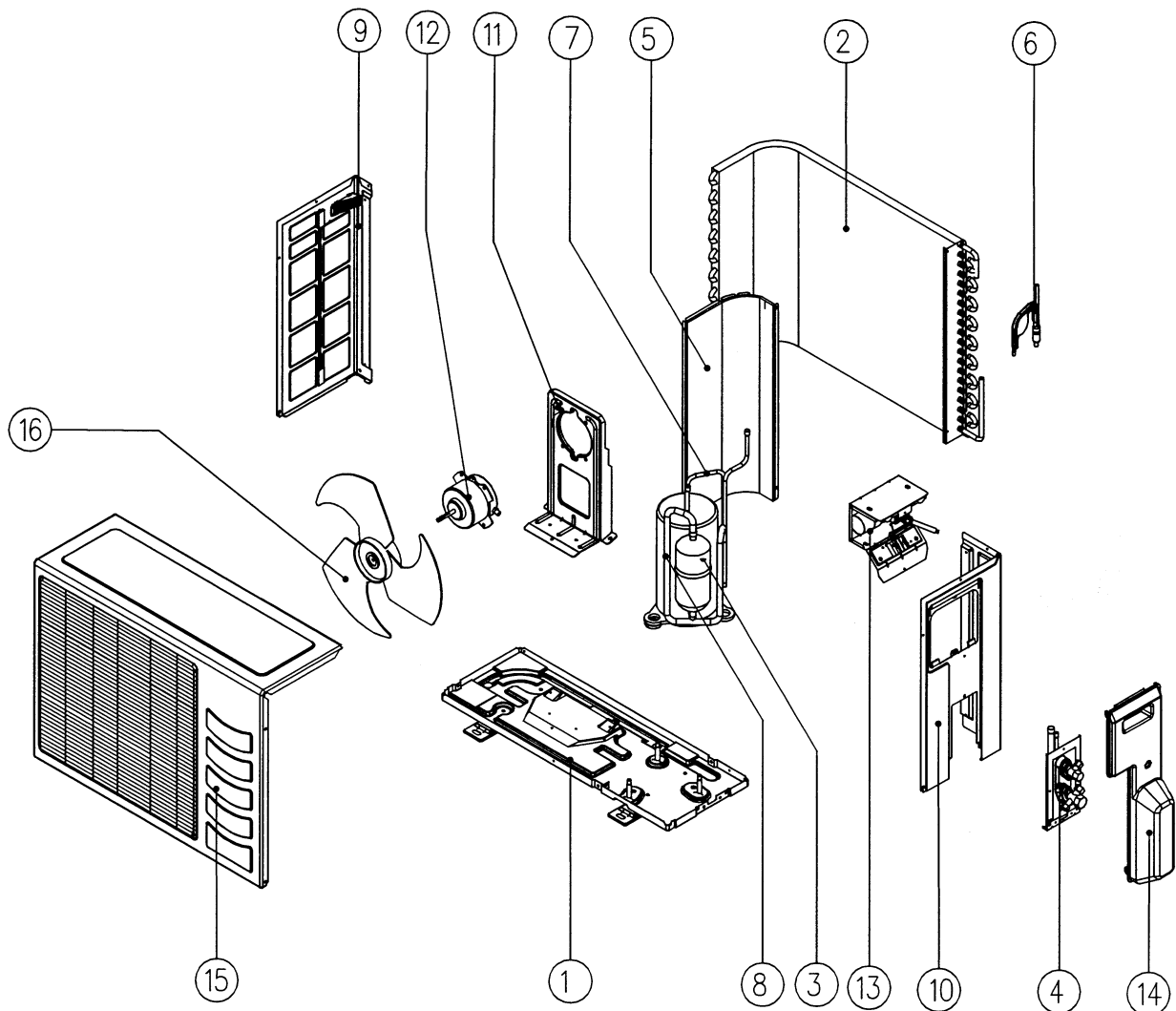
Model: MLC 007C



1. ASSY. BASE PAN
2. ASSY. CONDENSER COIL
3. ASSY. VALVE BRACKET
4. ASSY. COMPRESSOR
5. TUBE, DISCHARGE
6. ASSY. TUBE SUCTION
7. ASSY. CAP. TUBE
8. BRACKET, MOTOR

9. MOTOR
10. FAN, 14"
11. ASSY. PANEL LEFT INS.
12. ASSY. PANEL RIGHT INS.
13. ASSY. CONTROL PANEL
14. ASSY. FRONT PANEL INS.
15. ASSY. VALVE COVER

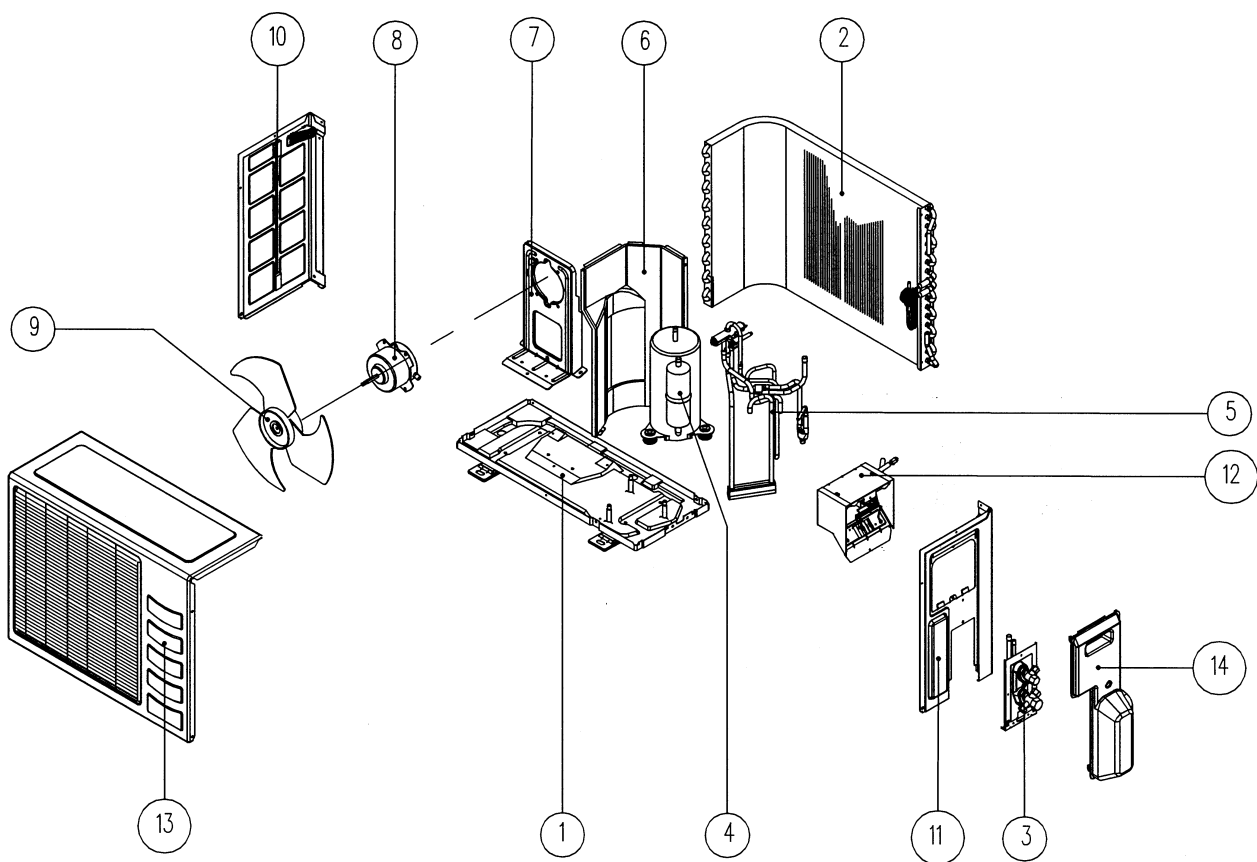
Model: MLC 010C / 015C



- 1. ASSY. BASE PAN
- 2. ASSY. CONDENSER COIL
- 3. ASSY. COMPRESSOR
- 4. ASSY. VALVE BRCKET
- 5. ASSY. PARTITION INS.
- 6. ASSY. CAP. TUBE
- 7. TUBE, DISCHARGE
- 8. TUBE, SUCTION

- 9. ASSY. PANEL LEFT INS.
- 10. ASSY. PANEL RIGHT INS.
- 11. BRACKET, MOTOR
- 12. MOTOR
- 13. ASSY. CONTROL PANEL
- 14. ASSY. VALVE COVER
- 15. ASSY. FRONT PANEL INS.
- 16. FAN, 16"

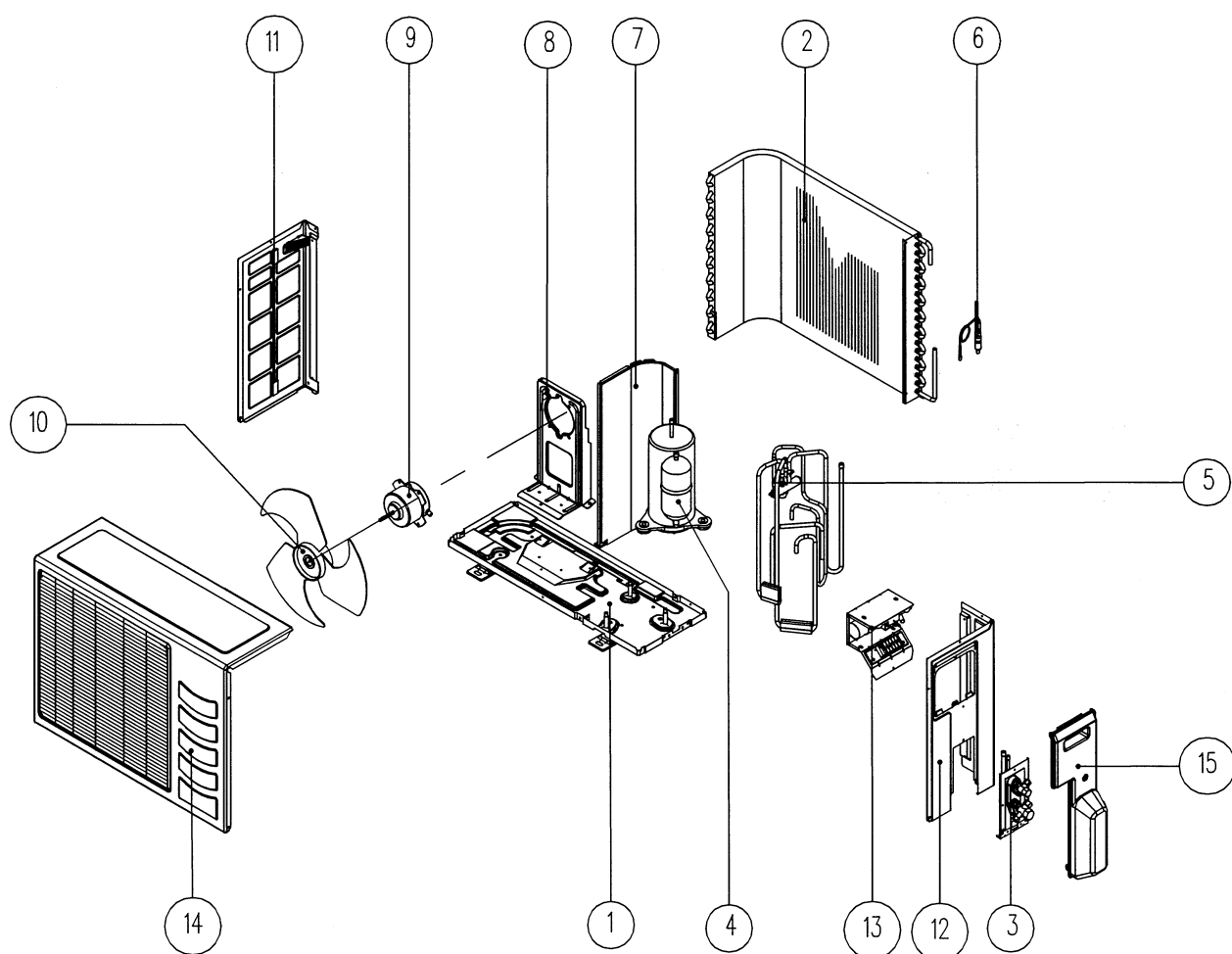
Model: MLC 007CR



1. ASSY. BASE PAN
2. ASSY. CONDENSER COIL
3. ASSY. VALVE BRACKET
4. ASSY. COMPRESSOR
5. ASSY. 4 WAY VALVE
6. ASSY. PARTITION
7. BRACKET, MOTOR

8. MOTOR
9. FAN, 14"
10. ASSY. PANEL LEFT INS.
11. ASSY. PANEL RIGHT INS.
12. ASSY. CONTROL PANEL
13. ASSY. FRONT PANEL INS.
14. ASSY. VALVE COVER

Model: MLC 010CR / 015CR



1. ASSY. BASE PAN

2. ASSY. CONDENSER COIL

3. ASSY. VALVE BRACKET

4. ASSY. COMPRESSOR

5. ASSY. 4 WAYS VALVE

6. ASSY. CAP. TUBE

7. ASSY. INS. PARTITION

8. BRACKET, MOTOR

9. MOTOR

10. FAN, 16"

11. ASSY. PANEL LEFT INS.

12. ASSY. PANEL RIGHT INS.

13. ASSY. CONTROL PANEL

14. ASSY. FRONT PANEL INS.

15. ASSY. VALVE COVER

